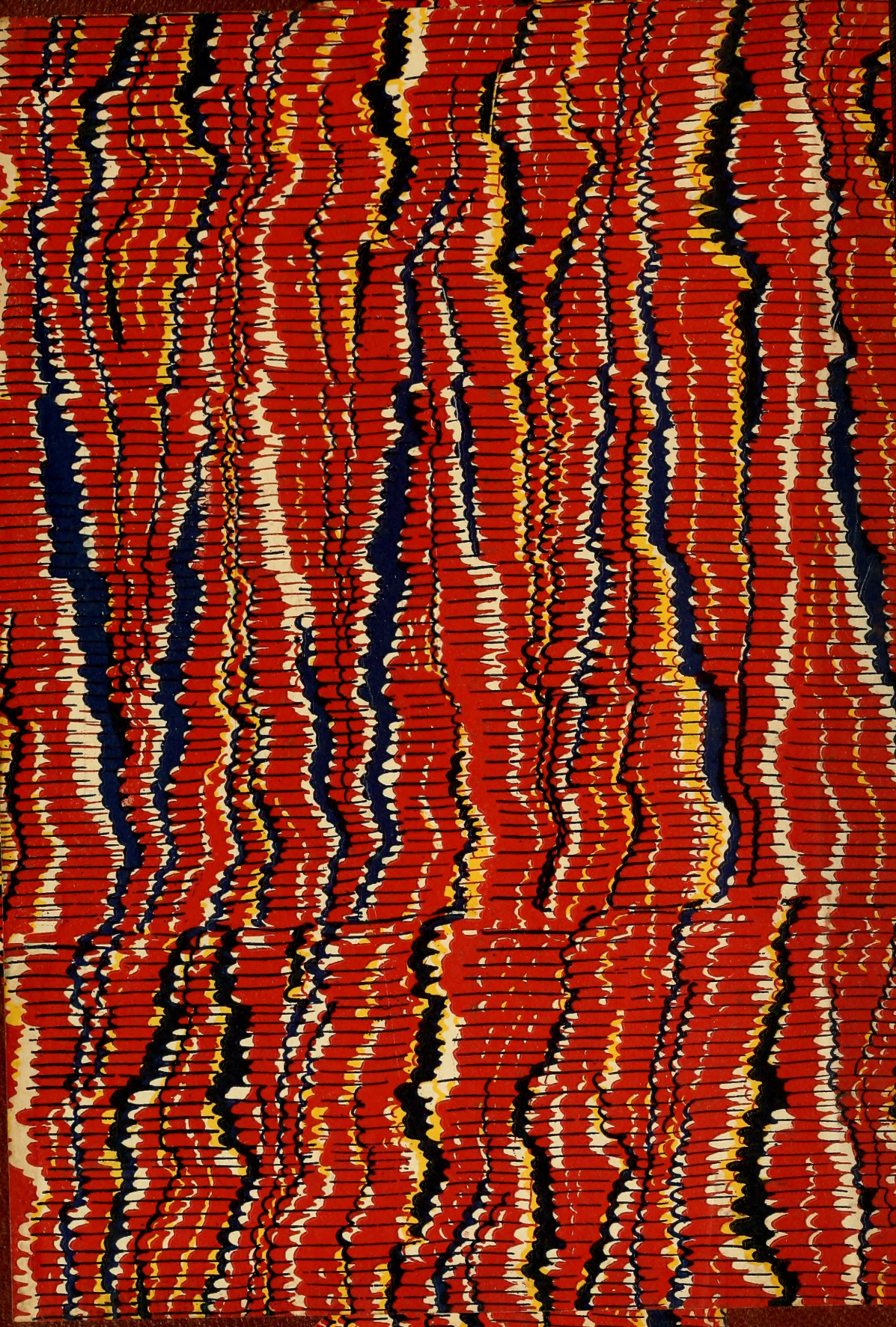
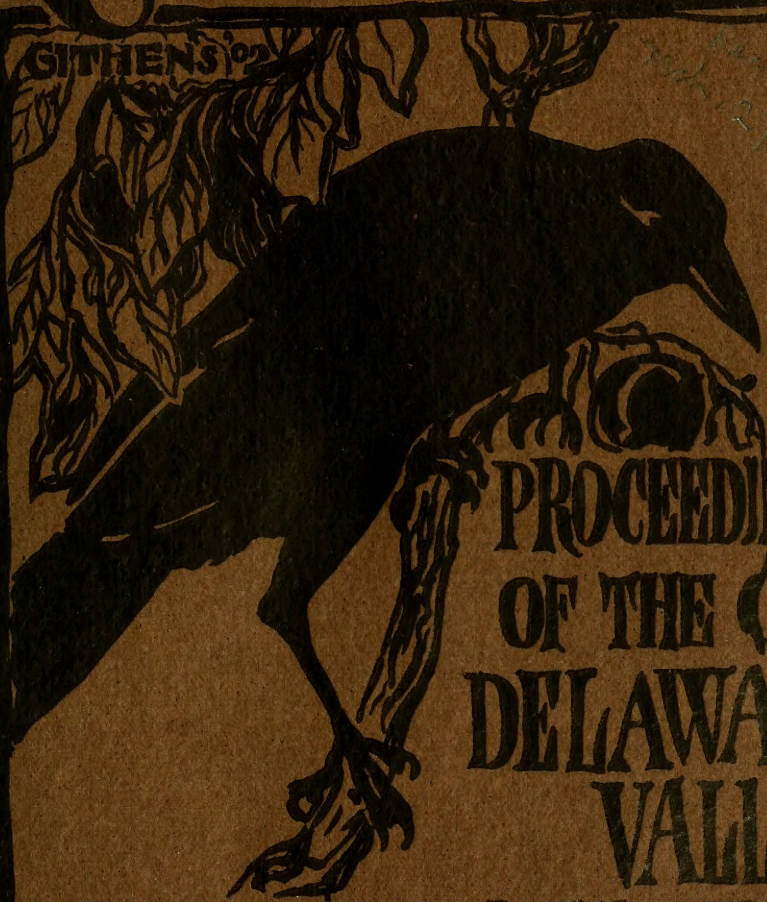
QL
671
D34
BIRDS



K-6

CASSINIA

A BIRD ANNUAL



PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB OF PHILADELPHIA

1916

ISSUED MARCH, 1917

CASSINIA

An Annual Devoted to the Ornithology of Pennsylvania, New Jersey, and Delaware

CONTENTS 1916

		PAGE
William P. Turnbull (*Frontispiece*)		
Some Rare or Unusual Birds in Upper Philadelphia	SPENCER TROTTER	1
Unusual Nesting Site of the Least Bittern, at Camden, N. J. (*Three Plates*)	HENRY W. FOWLER	7
Bird Life About Samar, Southern Clinton Co., Pa.	JULIAN K. POTTER	14
Report on the Spring Migration of 1916	THOMAS D. BURLEIGH	18
Abstract of the Proceedings of the Delaware Valley Ornithological Club for 1916	WITMER STONE	24
Club Notes	J. FLETCHER STREET	42
Bibliography, 1916		47
List of Officers and Members of the D. V. O. C., 1917		50
Index to Species		52
		57

PUBLICATIONS OF THE D. V. O. C.

The Birds of Eastern Pennsylvania and New Jersey, by Witmer Stone, pp. 176 with two maps and portrait of Alex. Wilson. One Dollar and a half. (Post paid, $1.62)

Abstract of Proceedings, Full Set Nos. I–IV. (1890–1900) pp. 98, Fifty cents

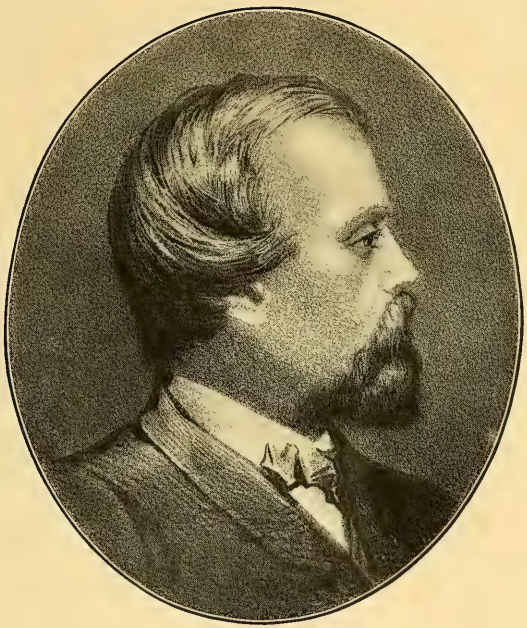
Cassinia, published annually beginning with 1901; comprising papers relating to the Ornithology of Pennsylvania, New Jersey and Delaware, and an abstract of the proceedings of the Club. Edited beginning with No. XX, 1916, by Spencer Trotter. Subscription price Fifty cents

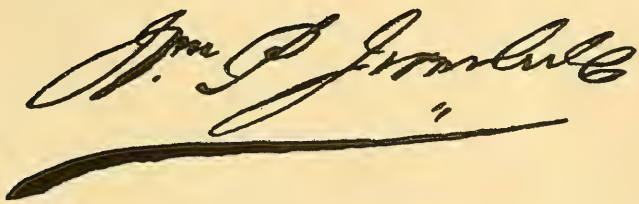
Address **Delaware Valley Ornithological Club,**
Care **Academy of Natural Sciences,**
Logan Square, Philadelphia.

Contributed articles, books, and all publications should be sent to Dr. Spencer Trotter, Swarthmore College, Swarthmore, Pa.

Publication Committee

GEORGE SPENCER MORRIS, *Chairman*,
DR. SAMUEL C. PALMER, FRANCIS R. COPE, SPENCER TROTTER.





CASSINIA

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB

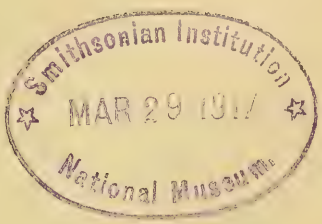
No. XX. PHILADELPHIA, PA. 1916.

William P. Turnbull.*

BY SPENCER TROTTER.

American ornithology had its roots in that growth of interest in nature that marked the close of the eighteenth century. For the first hundred years of settlement, there was little if any inquiry, in a scientific way, into the natural history of the New World. There was small chance of encouragement for its development. John Bartram and Benjamin Franklin were unique and shining lights. The minds that were first engaged in collecting and presenting the data concerning the native animals and plants, were those of men who later came to these shores, bringing with them the curiosity and interest that was developing in the atmosphere of European thought—Audubon, Wilson, Michaux, Bonaparte, and Rafinesque, all alike immigrants, but immigrants with a love of nature and a strong bias toward natural history pursuits. Alexander Wilson, the Scotch weaver, had watched birds on the banks of the Calder, and this interest was again awakened in his tramp to Philadelphia along

* The writer is indebted to Mr. Ruthven Deane of Chicago for much of the matter contained in this paper, as well as for the use of "the only known likeness" of Turnbull.



the Delaware, and later brought to a pitch of enthusiasm through his friendship with the native-born William Bartram. Bonaparte, with an undoubted ornithological bent, completed Wilson's work and advanced the scientific side of the study. The artist-naturalist Audubon was, like Bonaparte, a Frenchman, and with all the ear-marks of that gifted race. For the truly scientific portion of his great work, however, he was largely indebted to another Scot, William Macgillivray. So it is toward Scotland and France that we later devotees of the brilliant science of American ornithology may well turn our eyes. If these names are stars of the first magnitude, there are lesser lights, that yet are worthy of our attention, and the subject of this short sketch was, like Wilson and Macgillivray, a Scotchman.

William P. Turnbull was born at Fala, "a village lying on the southeast verge of Mid Lothian," on the twentieth day of June, 1830. So says his biographer, Mr. Robert Gray, a Scotch ornithologist, who published a sketch of Turnbull in the "Proceedings of the Berwickshire Naturalist's Club" (Vol. VIII, 1876–1878, pp. 77–78), about five years after his death. In this sketch, Mr. Gray speaks of Turnbull's boyhood, spent at his father's residence in the village of Gladsmuir, near the wood of that name in East Lothian, where his love for birds was early developed. "Always engaged in catching birds and looking for their nests," his biographer quotes, and I think we can fancy the lad, like one of us, with all that delightful enthusiasm, that after all seems the only thing worth while. His youthful observations, carried on mainly between the years 1845 and 1850, bore fruit in a "simple catalogue," published after he came to America, under the title, "Birds of East Lothian and a portion of the Surrounding Counties," issued from the Caxton press of C. Sherman, Son & Co., Philadelphia, (1863). Gray alludes in this biography to a frequent correspondence with Turnbull in America, and to the fact that he undertook, at Turnbull's suggestion, the preparation of a new edition, which "contains information on the rarer birds collected since the first edition was printed." It was illustrated by William Sinclair, and printed for private circulation, and bears the following title :

THE BIRDS OF EAST LOTHIAN
AND A PORTION OF
THE ADJOINING COUNTIES

BY

WILLIAM P. TURNBULL
Gladsmuir
Member of the Academy of Natural Sciences of Philadelphia;
of the Lyceum of Natural History, New York;
Corresponding Member of the Natural History Society of Glasgow, etc.

[A vignette of the Dunlin inserted here]

GLASGOW: PRINTED FOR PRIVATE CIRCULATION
1867

There appear to have been two sets of this edition issued, one an octavo of 150 copies, the other a large paper issue of 50 copies, two of which were printed on vellum.* Both of these issues were the same as to printing and paging (48 pages), and contained besides the Dunlin vignette, a frontispiece in color of the Great Spotted Woodpecker, *Picus major*, drawn on stone by Edwin Sheppard, and engraved by Bowen & Co., and twelve other illustrations of birds, scattered through the text. According to Mr. Gray, about one-third of the edition was destroyed by fire in the publishing house at Glasgow, rendering copies of the book very scarce.

Turnbull came to America in the year 1850, when twenty-one years of age. I have not been able to discover anything concerning his occupation or manner of life ; but that ornithology was uppermost in his mind is evident from the above-mentioned catalogue. We know he was an enthusiastic admirer of Alexander Wilson, and had in his possession, according to Mr. Gray, a trunk containing all of Mr. Wilson's "personal effects at the time of his death in 1813, his gun, pistols, books, letters, proof sheets, and plates of his great work on the birds of America, paint-box, drawings, saddle, his will, portrait, and annotated copy of his poems—all of which Wilson left to a Miss Sarah

* One of these vellum copies, Mr. S. N. Rhoads informs me, is now in the library of Mr. John E. Thayer of Lancaster, Mass.

Miller, who was pledged to become his wife, and from whose representatives they were purchased by Dr. Turnbull in 1868." We know that Turnbull must have devoted much of his time to the study of the birds of his adopted country, for in 1869, two years after the appearance of the "Birds of East Lothian," he published, in a similar style, his second work, "The Birds of East Pennsylvania and New Jersey," and it is this work that to-day brings him before the readers of "CASSINIA."

The typographical features of the American book are almost the exact counterpart of the East Lothian work, and like it there were two issues, a royal octavo, and a quarto. The title-page of this illustrated edition is as follows,—

THE
BIRDS OF EAST PENNSYLVANIA
AND NEW JERSEY

BY
WILLIAM P. TURNBULL. LL. D.

Author of the "Birds of East Lothian";
Member of the Academy of Natural Sciences of Philadelphia;
of the Lyceum of Natural History, New York;
Corresponding Member of the Natural History Society of Glasgow, etc.

[A vignette of the Meadowlark inserted here.]

GLASGOW; PRINTED FOR PRIVATE CIRCULATION.
1869.

On the reverse side of the title-page, there is a statement that "the impression has been limited to one hundred and fifty copies 8vo, and fifty 4to—two of the former being on vellum." On the second leaf there is a dedication in Latin and Greek to Wilson, and a beautiful vignette of Wilson's grave and the Old Swedes' Church, done by J. Faulkner, R.H.A. There are altogether twenty drawings by Edwin Sheppard and William Sinclair, drawn upon stone by Frank Bott. The work was edited by Robert Gray, though his name does not appear, and printed by Arch K. Murray and Co. Glasgow. In the "Bibliographical Appendix" to the "Birds of the Colorado Valley" Dr. Coues, remarking upon this edition, says, "This is a sump-

tuous and elegant book—the best printed treatise on American birds extant. One of my amanuenses being set to the task, reported, 'No typographical error found after close scrutiny.'" Coues further speaks of its scarcity and that "the edition was bought up by J. Sabine & Sons, N. Y., who advertised the 4to copies at $4." An American edition of the same date was published by Grambo & Co. of Philadelphia, which according to Coues, appeared before the Glasgow edition, and differs only in the specific name of the Nighthawk, *popetue* instead of *virginianus*. There is also an interesting early reference to the European House Sparrow in America, and an illustration of the same by Sinclair.

Another edition of this same work, identical with and apparently from the same plates as the Glasgow edition, but without illustrations, appeared in pamphlet form, published by Henry Grambo & Co., Philadelphia, 1869. At one time Turnbull appears to have contemplated joining this firm, but for some reason failed to do so. This pamphlet edition is the one commonly quoted and is still occasionally met with among dealers. Coues refers to it as selling "for one-third the price of the other, to which it is inferior in style, though still a handsome pamphlet." The highly calendered green paper cover bears a title similar to that of the title-page inside, save that it lacks the punctuation and author's titles, and also the Latin quotation, the space of this last being substituted by an engraving of two birds on a leafy branch, fairly good representations of the Golden-winged and Chestnut-sided Warblers. The Latin quotation referred to is substituted in the space of the title-page for the vignette of the Meadowlark in the illustrated edition. It is from Ovid :

> aves, solatia ruris,
> Assuetum silvis, innocuumque genus,
> Quae facitis nidos, quae plumis ova fovetis,
> Et facili dulces editis ore modos.—Ovid.

Mr. S. N. Rhoads informs me that a few copies of this 8vo pamphlet had the imprint of C. D. Price, a Philadelphia bookseller. At the end of the last page, (50) is the same reference

to Murray, the printer, as in the Glasgow edition, indicating the transatlantic origin of the plates.

Turnbull left an interesting collection of birds which I remember examining many years ago at the home of the late Professor E. D. Cope, who I believe obtained the specimens from Bernard Hoopes, a local collector. This collection is now in the possession of the Academy of Natural Sciences.

There is one point of interest reflected in the difference as to the author's name in the title-page of the East Lothian and East Pennsylvania books. In the latter the author's name is followed by the letters "LL. D.", the University of Pennsylvania having conferred this degree upon him in August 1868, the year between the appearance of the two works.

As to the personal history of William Turnbull, outside of his work as an ornithologist, I have little to record. In the year 1866, he made a short visit to Scotland, where Gray became personally acquainted with him, and remarks that he was the most enthusiastic lover of birds he had ever met. He possed a very valuable liberary, especially complete in works on ornithology. Turnbull was elected a member of the Academy of Natural Sciences on July 28, 1857 and served as a member of the committee on ornithology for 1869–1870. From an obituary notice in an American newspaper quoted by Gray, he appears to have had a wife and child or children. He died in Philadelphia on the 5th of July, 1871, aged forty-one years, and his funeral took place on the 8th inst. from the residence of a sister on Twenty-first Street below Spruce, but his burial place is unknown to me. It is but another illustration of the vanishing of men out of the world of the living, and the difficulty of finding even a trace of them in the span of a generation. The obituary notice above referred to, which I have failed to find, but which Gray quotes in his memorial, without exact reference to its source, concludes thus, "Dr. Turnbull was a warm-hearted friend, a genial companion, a highly cultivated gentleman, a devoted father and husband, and a sympathizing, honest man. His death at so early an age, will in many places, create a void not likely very soon to be filled."

Some Rare or Unusual Birds in Upper Philadelphia.

BY HENRY W. FOWLER.

FOURTEEN years ago my paper* summarizing the more interesting notes gathered on the bird-life of the tidal region of the Delaware about Holmesburg chiefly, was published in these pages. Since then a number of records and notes have been published in the migration report of the "Club," which have added considerably to the knowledge of the bird life of the region. My paper† on "Some Local Fish-eating Birds" will be found to contain a few notes. Additional data, together with such records as refer to the more usual land birds, are included in the present account. The ever-encroaching conditions of the city are slowly changing this section of the country, so that now the lower valley of the Pennypack has been largely transformed into a public park, with many of the old haunts of the birds quite changed. This has inevitably forced certain species elsewhere, while several species have appeared not noticed in previous years. It therefore appears desirable to place on permanent record the information given below.

Acknowledgment is here offered several gentlemen who kindly supplied information used in this paper. The late Charles Smith of Holmesburg, who was familiar with many of the water-birds, kindly furnished some early notes in 1909, relative to species without definite records in my 1903 paper. Mr. Richard F. Miller kindly placed his numerous notes at my disposal, and such as are included are duly credited. Finally Mr. Earl L. Poole sent a few notes on some birds he observed about city reservoirs in Philadelphia.

* Cassinia, 1903, pp. 43–53.

† Loc. cit., 1913, pp. 6–15.

Horned Grebe—*Colymbus auritus.* During the fall of 1908 very abundant on the river at Holmesburg, in rather large flocks, sometimes fifty or more seen at one time.

Loon—*Gavia immer.* An adult shot on the river at Tacony in the fall of 1903, and mounted by a local taxidermist. One at Queen Lane Reservoir May 10, 1914 (Poole). The Red-throated Loon I mentioned in 1903 was found in a gill-net above Torresdale.*

Herring Gull—*Larus argentatus.* Seen on the Diamond Street Reservoir in Fairmount Park in 1910, 1912 and 1913, between November 6 and 12 and until April 15 or May 1 (Poole).

Ring-billed Gull—*Larus delawarensis.* From my old notes an adult seen February 22, 1895, in the river off the mouth of the Pennypack.

Bonaparte's Gull—*Larus philadelphia.* Four seen on the Diamond Street Reservoir April 16, 1914 (Poole). Although this gull has not been observed by me, it doubtless occurs regularly during migrations, and seems to be known to many of the river fishermen.

Merganser—*Mergus americanus.* Found on the Diamond Street Reservoir from 1910 until 1914, arrives November 1 to 14 and leaves May 1 to 9 (Poole).

Red-breasted Merganser—*Mergus serrator.* About 1898? I noted a flock on the river off Torresdale, and near this same locality Mr. Miller reported a small flock February 1902.

Hooded Merganser—*Lophodytes cucullatus.* None seen killed on the river since 1885, prior to which time abundant (Smith). A pair on the Pennypack near La Grange November 21, 1905 (Miller).

Black Duck—*Anas rubripes.* Several times seen along the Pennypack above Crystal Springs. Two near Vereeville in late June 1915 (Miller).

Green-winged Teal—*Nettion carolinense.* One in a ditch at Aramingo, October 1912? (Miller).

Blue-winged Teal—*Querquedula discors.* Sandy Run (Mil-

* Cassinia, 1903, p. 45.

ler). Two shot at League Island Lake in September 1905 (Poole).

PINTAIL—*Dafila acuta.* Several seen on the Pennypack above the upper Rhawn Street Bridge (Miller).

WOOD DUCK—*Aix sponsa.* Dr. G. F. Enoch reports a pair above Crystal Springs on the Pennypack during the summer of 1899. One seen the same place July 20, 1895, and another July 31. I have seen several mounted birds from this region.

SCAUP DUCK—*Marila marila.* Frequent, sometimes in large flocks during November and early spring. A few remain on the river throughout the summer. On several occasions adult males and females were seen at Torresdale and above from 1908 –1910. About twenty-five, both this and the next species, seen on the Diamond Street Reservoir March 28, 1913 (Poole). A Scaup (species not given) on January 21, 1912 on the Pennypack at Walnut Hill, Montgomery County (Poole).

LESSER SCAUP—*Marila affinis.* Two pairs seen on the Pennypack near Sandy Run about 1903 (Miller). Four, probably this species, on the Diamond Street Reservoir March 31, 1913 (Poole).

RING-NECKED DUCK—*Marila collaris.* Killed several on the river in the late eighties, but then thought unusual, and very few seen since (Smith).

GOLDENEYE—*Clangula clangula americana.* One on Diamond Street Reservoir March 31, 1913 (Poole).

BUFFLEHEAD—*Charitonetta albeola.* Only two killed in 1886, when very few were seen (Smith). Frequently seen in later years, and often large strings brought to Holmesburg by the gunners during the late nineties.

OLD SQUAW—*Harelda hyemalis.* Two adult males killed on the river opposite Riverton in the fall of 1885 (Smith).

RUDDY DUCK—*Erismatura jamaicensis.* Saw several killed on the river in 1903, and others were reported in 1908, and for several years following.

CANADA GOOSE—*Branta canadensis canadensis.* One seen on the Diamond Street Reservoir May 5, 1914 (Poole).

WHISTLING SWAN—*Olor columbianus.* A local taxidermist had the head of a swan he reported shot on the river near Riverton about 1902 (Miller).

GREEN HERON—*Butorides virescens virescens.* Nested near Rowlands in 1911 (Miller).

KING RAIL—*Rallus elegans.* Several killed during the early nineties, though the species never appeared abundant (Smith).

VIRGINIA RAIL—*Rallus virginianus.* A pair nested in the cave near Crystal Springs in the summer of 1897, which I observed with the young. Evidently nesting near the old piggery of the Bureau of Correction June 4, 1902 (Miller).

YELLOW RAIL—*Coturnicops noveboracensis.* One at Bridesburg in December 1914 (Miller).

COOT—*Fulica americana.* The only example from the Pennypack was killed above the first dam in the early nineties.

GREATER YELLOWLEGS—*Totanus melanoleucus.* A flock of about thirty seen off Torresdale in the late nineties, from which several were shot, and which I examined when mounted, forms my only additional note.

LESSER YELLOWLEGS—*Totanus flavipes.* I obtained two examples, now in the Club Collection, shot from a flock of forty or more at Willits Pond during 1895. These birds were not shy, readily flushed, and quite noisy. Several also seen at Willits Pond in May 1901 (Miller).

UPLAND PLOVER—*Bartramia longicauda.* Breeding at Sandiford in 1903 (Miller).

BLACK-BELLIED PLOVER—*Squatarola squatarola.* This species is credited to me* as having been seen at Bristol, August 19, 1909, though this locality is erroneous as the bird was seen on the shores of the Delaware River at Bordentown, N. J. We approached it within a few feet, while in a row-boat, and had an excellent opportunity to watch it a short time before it flew away.

KILLDEER—*Oxyechus vociferus.* Saw two on February 27, 1912 at Holmesburg.

MOURNING DOVE—*Zenaidura macroura carolinensis.* Nested on the ground at Blue Grass, May 10, 1902 (Miller).

TURKEY VULTURE—*Cathartes aura septentrionalis.* About five or six along the river marshes between 1885 and 1896. One

* Cassinia, 1909, p. 56.

seen near Sandy Run in May, 1896, and later eight or nine during the same year.

MARSH HAWK—*Circus hudsonius.* One killed at the mouth of the Pennypack September 14, 1896, contained a song sparrow entire.

SHARP-SHINNED HAWK—*Accipiter velox.* On September 7, 1896 several were seen chasing a number of flickers about the tall willows, then growing about the estuary of Sandy Run. The flickers were entirely successful in eluding their pursuers. A Sharp-shin killed October 6, 1894 contained a field mouse (*Microtus*).

GOSHAWK—*Astur atricapillus atricapillus.* Two reported at Torresdale about 1910, fully adult and with finely barred gray bellies. One seen at Frankford in February 1915 (Miller).

BROAD-WINGED HAWK—*Buteo platypterus platypterus.* Regular along the Pennypack, and first secured in September 1894. Breeds. Nested on the Veree Road, Pennypack Creek, April 28, 1915 (Poole).

ROUGH-LEGGED HAWK — *Archibuteo lagopus sancti-johannis.* Occasional in winter, and with the Red-tail and Red-shoulder, formerly caught in small numbers by the crow trappers. My records, February 14, 1895 and January 11, 1896.

BALD EAGLE—*Haliaetus leucocephalus leucocephalus.* About 1879 a pair nested in the woods close by the site of the Torresdale fish-hatchery (Smith). An immature example seen below Eden (Torresdale) May 16, 1899 (Miller).

DUCK HAWK—*Falco peregrinus anatum.* One in Fairmount Park February 25, 1912 (Poole).

OSPREY—*Pandion haliaetus carolinensis.* Nested at the Torresdale fish-hatchery May 28, 1898 (Miller). I obtained a female at Somerton October 5, 1896.

BARN OWL—*Aluco pratincola.* One secured in October 1895 was very tame and docile. Several others seen in 1900, Bridesburg in January 1914 (Miller).

SHORT-EARED OWL—*Asio flammeus.* Several taken at Holmesburg and Liddonfield.

SAW-WHET OWL—*Cryptoglaux acadia.* A wing found in the woods near the upper Rhawn Street Bridge March 12, 1911.

Other feathers scattered about, also cast-up pellets, suggest the owl might have been preyed on by some rapacious bird or mammal.

Snowy Owl—*Nyctea nyctea.* Several have been killed along the river-marshes prior to 1896, where it was an irregular straggler in winter (Smith).

Black-billed Cuckoo—*Coccyzus erythrophthalmus.* Found nesting about Holmesburgh in 1902 (Miller).

Hairy Woodpecker—*Dryobates villosus villosus.* Only one example taken, August 4, 1895, above Crystal Springs. Nested in the Axe Factory Woods.

Yellow-bellied Sapsucker—*Sphyrapicus varius varius.* One taken Holmesburg January 22, 1894.

Red-headed Woodpecker—*Melanerpes erythrocephalus.* My records October 3, 1894, September 7, 1896, October 8, 9, and 12, 1897, and July 1907. Nested at Eden in 1897 and 1898, and one seen at Sandiford in winter 1904 (Miller).

Whip-poor-will—*Antrostomus vociferus vociferus.* August 1892, August 10, 1894, August 1895, and October 11, 1894.

Nighthawk—*Chordeiles virginianus virginianus.* My records, April 9, 1895, September 13, 1895, several in September 1896, many September 11, 1911, four, on 23 and one on 25.

Olive-sided Flycatcher—*Nuttallornis borealis.* One obtained September 5, 1894 by Mr. F. F. Carthage*.

Yellow-bellied Flycatcher—*Empidonax flaviventris.* My examples obtained August 20 and 21, 1895, September 26, 1896, and May 6, 1909.

Acadian Flycatcher—*Empidonax virescens.* Found occasionally about La Grange.

Alder Flycatcher—*Empidonax trailli.* One taken above Crystal Springs May 18, 1895.

Horned Lark—*Otocoris alpestris alpestris.* Flock in February 1895 and another in February 1905.

Fish Crow—*Corvus ossifragus.* Nested at Torresdale April 10, 1902 and Crystal Springs May 1912? (Miller). No examples were obtained between May and December.

* Cassinia, 1903, p. 73.

Rusty Blackbird—*Euphagus carolinus.* One taken at Richmond in January 1914 (Miller).

Pine Siskin—*Spinus pinus.* A small flock found feeding in low bushes near Liddonfield in November about 1906.

Grasshopper Sparrow—*Ammodramus savannarum australis.* Frequent summer resident about Crystal Springs, though I did not meet with it until 1911.

Fox Sparrow—*Passerella iliaca iliaca.* One secured near the mouth of Sandy Run January 1, 1896.

Towhee—*Pipilo erythrophthalmus erythrophthalmus.* Two on December 18, 1910 near Sandy Run.

Worm-eating Warbler—*Helmitheros vermivorus.* My records August 20 and 23, and September 4, 1895, and May 11, 1907.

Golden-winged Warbler—*Vermivora chrysoptera.* My specimens August 21, 1895 and September 4, 1895.

Tennessee Warbler—*Vermivora peregrina.* One near Crystal Springs September 12, 1895.

Myrtle Warbler—*Dendroica coronata.* My records November 3 and 26, and December 31, 1894, and February 8, 14, 22, and 28, 1895. A dead example found November 8, 1910.

Louisiana Water Thrush—*Seiurus motacilla.* Seen at the first dam on the Pennypack May 12, 1900 and May 12, 1902.

Kentucky Warbler—*Oporornis formosus.* A summer resident of recent years. I first met it in May 1912. Nested from 1907 or 1908 to the present time about the upper Rhawn Street Bridge (Miller).

Connecticut Warbler—*Oporornis agilis.* Found at Vereeville May 16, 1902 (Miller).

Hooded Warbler—*Wilsonia citrina.* My records August 22, 1895, and May 11, 1907.

Long-billed Marsh Wren—*Telmatodytes palustris.* Nested at Crystal Springs June 4, 1902 and in June 1915 (Miller).

Red-breasted Nuthatch—*Sitta canadensis.* Only found in September and October of 1896.

Unusual Nesting Site of the Least Bittern, at Camden, N. J.

BY JULIAN K. POTTER.

It is a strange fact that one interested in the study of birds may travel the same beaten paths about his home time after time, and yet fail to discover all the bird secrets in his particular neighborhood. This is the lure that calls one afield at every opportunity, though the path may be as familiar as the city street which is followed to business every day.

I had often traversed the soggy path around the old mud hole, completely choked up with button-bushes, arrow-head lilies, and other water-loving plants, before discovering that it was the summer retreat of that charming little denizen of our marshes, the Least Bittern. Often in early spring I had surprised the bird, hunting along the edges of the pool; and had watched it as with frightened squawk it flapped its way to a more secure retreat farther from the shore, As for finding a nest in such a place, I had never given it a thought, for the reason that I always believed that a rank growth of cat-tails was necessary for the home site of this species. Cat-tails were entirely lacking in this mud-hole, so of course no Bitterns nested there;—insufficient knowledge, gleaned from numerous books.

My surprise may well be imagined, when on May 10, 1916, in a tour of investigation about the pond, I noticed a male Least Bittern, bill pointing up, sitting on a nest situated in a button-bush eighteen inches above the water. By means of an old boat that had been conveniently left in the pond, I found that the nest contained five eggs. The following day near the opposite side of the pond from the first nest, a female Least Bittern was seen carrying a stick in her bill. She made her way to a bunch of arrow-head lilies, and placed the stick among the

FEMALE LEAST BITTERN ON HER NEST.

NEST AND EGGS OF LEAST BITTERN.

YOUNG LEAST BITTERNS, ONE WEEK OLD.

leaves. Afterward I discovered that this nest rested on a branch of a button-bush, running through the base of the plant. Two days later both Bitterns were seen about this nest, (the nest in the button-bush meanwhile having been destroyed), and the male Bittern evidently brought something and fed the female while she was on the nest. She accepted the food, and then started to busy herself by pulling the tops of the leaves together above the nest to form an arch after the manner of the Rails. It did not work in this case, however, and she only succeeded in tearing the leaf tips. On May 18, the nest contained five eggs, a complete set. On this day another nest was discovered in a button-bush three feet from the water, containing four eggs. This was probably a second nest built by the birds whose nest I had first found, as it contained a short set and two of the eggs failed to hatch.

From the 18th of May I devoted most of my time to the arrow-head lily nest, as I had found this nest as it was being built. The nests were all constructed of piled sticks pointing toward the center like the spokes of a wheel. The female Bittern attended to most of the household duties, although the male came in for his share. He did not stick to his work as faithfully as the female, but left the nest when approached. The female could not be forced to leave the nest during all the time she was sitting. She simply would not budge, and had to be lifted from the nest in order to see what was taking place beneath her. At all times when approached she assumed a serpent-like attitude, stretching her neck up and swaying her head back and forth; closer approach caused her to draw in her head close to her body, spread her wings, and ruffle up her feathers, making her body appear twice the normal size. Sometimes she made fierce thrusts at the intruder, accompanied by loud squawks. She really presented a very formidable appearance. In fact a snake-loving friend whom I took with me on one occasion refused to put his hand within reach of her bill, saying, "She looks as if she would pick your eyes out." (This from one who takes delight in hunting rattlesnakes.) I found that these fierce looks and serpent-like attitudes were all bluff, and that even her pick was a weak affair, not equaling the pick of a set-

ting hen. Gradually she became used to my presence, and during the latter part of the incubation period, I was able to get some photographs of her in almost natural positions; in fact she became an ideal subject for photography. The male kept very much out of sight during the incubation period, and I only saw him when he happened to be on the nest at my approach. His soft low notes were often heard, although I could never see him utter his klo-o-o klo-o klo klo klo, dove-like in character, starting low and getting more rapid toward the end. I had often heard the love song of the Least Bittern before, but never until this spring was I sure what bird was the author of these cooing notes. On May 30, I visited the nest late in the afternoon, and found on lifting the female, that one of the eggs was pipped, and the next day three very funny youngsters had made their appearance. The Bittern evidently starts to set as soon as the first egg is laid. I was unable to visit the nest again until June 6, and then found that a great change had come over the young. All five assumed the bittern-like pose of their parents, and with one accord greeted my approach with with weak croaks, accompanied by wobbly thrusts at my hand. Their efforts in this direction could hardly be felt. Yet their fierce looks were quite awe-inspiring, and would frighten away some enemies. The female Bittern was not in evidence, nor was she seen again. The male bird was on hand and for the first time seemed very much disturbed. He croaked his disapproval from a nearby bush. I never saw a bird go through so many grotesque contortions and movements. I lifted one of the young from the nest, and he actually looked as if he would twist himself apart. He was evidently unable to stand the muscular effort, for he soon quieted down and contented himself by uttering protesting croaks.

The young bird, now a week old, could cling to a branch by means of its feet, assisted by its wings. It could also very nearly hold itself suspended by placing its bill over a branch. On June 9, when I again visited the nest, it was empty. One dead young bird lay in the ooze beside the nest. It looked like foul-play, and it may be just possible that the other young birds had left the nest, and were scrambling about among the

bushes, although none were seen. The dead bird had feathers just breaking from their sheaths.

Meanwhile the young birds in the button-bush nest had hatched on June 8. On June 10, I went away on a trip, and left the Bitterns in the care of Mr. J. Fletcher Street, who photographed the young on that date. On the following Saturday, June 17, when he again approached the nest to take pictures, he found it empty, but was quite certain that he saw something, probably a young bird, leave the nest as he approached.

This fact, coupled with my observations, would seem to indicate that the young Bitterns left the nest when about ten days old, and before they were able to fly.

Bird Life about Samar, Southern Clinton Co., Pa.

BY THOMAS D. BURLEIGH, PITTSBURGH, PA.

For seven weeks during the summer of 1916, from the 23rd of June to the 12th of August, I was in the Pennsylvania State College Forestry Camp some four miles from Samar, Pa. and in that time I was able to make a fairly thorough study of the bird-life of that region. It is true that necessary work kept me busy five days out of the week, from early morning until evening, but the work was entirely out of doors and when a nest was found or an unusual bird seen, there was no objection to my stopping a few minutes to make desired observations. Added to that there were Sundays and Saturday afternoons, with an occasional Wednesday afternoon, so in all, the region was well covered.

The character of a country always decides its bird-life, so a few words of the general topography of the area worked will not come amiss. The town of Samar is a small country town of some two hundred inhabitants, and is ten miles from the nearest large town, Lock Haven. It lies in a large open valley which runs roughly east and west. To the south, hardly a quarter of a mile distant, begin the first ridges of a range of the Appalachians. These have the even, almost unbroken sky-line that is so characteristic of the mountains of central Pennsylvania, an occasional gap coming as a relief in a topography that boasts of no high peaks or out-thrusting cliffs. A quarter of a mile from the town Fishing Creek comes out of a narrow gap in the mountains which connects the Samar Valley with Sugar Valley five miles away. This gap is known locally as the "Narrows" and is well named. Fishing Creek is a famous trout stream; it is large, at most points thirty to fifty feet across, and is always well stocked. Flowing into it, along the length of the "Narrows," are occasional smaller creeks, usually from steep, wooded

ravines that at some places can be called valleys. In one of these, known as Cherry Run, our camp was located, and from it there was easy access to the varied country surrounding it.

In the woods, evergreens, occurring scattered or in small stands, were frequently come across, and consisted of hemlock, white pine, pitch pine, table-mountain pine and scrub pine. The hardwoods which predominated, varied, the main species being the white oak, red oak, chestnut oak, chestnut, yellow poplar, sweet birch, yellow birch, paper birch, large-toothed aspen and sassafras. In the open valleys there were occasional wood-lots in which were white oak, red oak, white pine and hemlock, with other species in smaller numbers.

Bird-life was interesting because of its varied nature and because of unusual conditions in respect to some species. Wood Pewees were conspicuous by their scarcity. In seven weeks I saw but one bird, and that one was in an orchard and not in the woods. Catbirds were far from plentiful. Towhees were found only on the high ridges, and no Juncos were seen, although the Blue-headed Vireos, Hermit Thrushes and the more northern Warblers (Canadian, Blackburnian, Magnolia, etc.) were plentiful.

In the notes that follow, I have taken up only the birds that seemed to me of some interest, and have not attempted a complete list of the species recorded. This I have considered unessential, as the mere mention of such birds as the Field Sparrow, Nighthawk, etc. being seen can be of no value.

Solitary Sandpiper—*Helodromas solitarius solitarius.* One bird was seen Aug. 9, about a small pond, the first for the fall migration.

Upland Plover—*Bartramia longicauda.* A rare summer resident. On July 3, while walking along a road that passed through large open fields, one of these birds suddenly appeared and showed great alarm over my presence, circling overhead, uttering its sputtering alarm note and frequently alighting on a fence-post actually within twenty-five feet of me. It undoubtedly had young nearby, but although an attempt was made to find them, the search proved unsuccessful.

Wild Turkey—*Meleagris gallopavo silvestris.* Plentiful in the

deep woods. They were frequently seen by different members of our party and I myself, on July 5, came across a large hen with ten or so half-grown young. I had been following an old woods-road and on turning a sharp bend saw them feeding a short distance ahead of me. They did not at first notice me and came toward me for several feet, giving me a fine view of them before they suddenly disappeared into the underbrush. The young were about the size of a full-grown chicken, and could fly fairly well.

Pileated Woodpecker—*Phloeotomus pileatus pileatus.* Said to be found here in small numbers, although I saw no birds myself. Conditions were well suited for them and I realized that they were undoubtedly around by the large holes that they had dug in the trees when after insects. One that I noticed was in the trunk of a living white-pine and was actually a foot in length, four inches wide and six inches deep. The bird that did that must have been unusually hungry or found the grubs unusually tempting.

Red-headed Woodpecker—*Melanerpes erythrocephalus.* A scarce summer resident in the open valleys. A nest found July 14th, held five slightly incubated eggs and was twenty feet from the ground in a dead limb in the top of a large apple-tree at the edge of an orchard. This is as late a date as I have ever found the birds nesting.

Whip-poor-will—*Antrostomus vociferus vociferus.* An abundant summer resident. On July 3rd, while tramping through the woods, one of these birds flushed from under my feet and a short search revealed one young bird, half grown. Its light brown plumage blended perfectly with the dead leaves and if I looked away a minute, it required a close glance to pick it out again. The adult bird showed great alarm over my presence and continually fluttered about near-by, attempting to attract my attention. Twice it alit crosswise on a small limb, an unusual action for one of this family.

Chimney Swift—*Chaetura pelagica.* Abundant about the scattered farms and in the town. A nest found July 13th, ten feet down in the chimney of an unused house, held five well-grown young.

PHOEBE—*Sayornis phoebe.* Found everywhere. July 2nd, I looked under three bridges that crossed small streams near our camp, and under each found a nest, on or against a beam within a few feet of the water. Each nest held four eggs, varying in incubation. Three days later, on the 5th, I found another nest with five incubated eggs, against a beam in the roof of the overshoot of a barn.

GOLDFINCH—*Astragalinus tristis tristis.* Rather plentiful in the open country. Six nests were found, all varying considerably in respect to situation as the following data will show. Aug. 2nd,—Five slightly incubated eggs, ten feet from the ground in the top of an osage-orange tree at the side of the road. Aug. 4th,—Five slightly incubated eggs, fifteen feet from the ground in the top of a small apple tree in an orchard. Four slightly incubated eggs, six feet from the ground in a small white elm at the side of a road. Aug. 9,—Three incubated eggs, fifteen feet from the ground at the outer end of a limb of a large sugar maple at the side of a road. Five slightly incubated eggs, ten feet from the ground in a small white elm in a thicket at the edge of a field. Aug. 10, six incubated eggs, thirty feet from the ground in the top of a large yellow birch at the side of a road.

ENGLISH SPARROW—*Passer domesticus.* As would be expected, these birds were far from scarce about the town and around the farms and were surely holding up very well their reputation for destructiveness. July 13th, five half-grown young were found in a Cliff Swallow's nest, and July 26th, three fresh eggs were found in a Barn Swallow's nest. Both of these nests were characterized by unsightly appearance, due to the loose grasses and feathers that had been later added.

CHIPPING SPARROW—*Spizella passerina passerina.* Common about the town and about the scattered farms in the open valleys. Two nests were found. One, June 26th, held three incubated eggs and was eight feet from the ground in a horizontal crotch on the outer end of a limb of a large white oak. The other, found July 2nd, held four slightly incubated eggs and was twenty-five feet from the ground near the top of a pear tree in an orchard.

Song Sparrow—*Melospiza melodia melodia.* Abundant. Three nests were found, one of which was of interest because of its somewhat unusual situation. We were out July 5th, running a survey line, and as one of the party cut into a young white pine to blaze it, one of these birds fluttered out from the top and disappeared into the underbrush. A close look showed me the nest, fully ten feet from the ground, and well concealed. It held three incubated eggs.

Barn Swallow—*Hirundo erythrogastra.* A common summer resident. A late nest was found July 27th, holding at that date four incubated eggs.

Cliff Swallow—*Petrochelidon lunifrons lunifrons.* A few were noticed about all the barns, nesting in the overshoot. A late nest examined July 23rd, was found to hold three slightly incubated eggs.

Cedar Waxwing—*Bombycilla cedrorum.* Common in the open country. A nest found July 5th, held five slightly incubated eggs and was fully forty feet from the ground in the top of a large black willow at the side of a road. This is the highest that I have ever known the birds to nest. Another that held five incubated eggs, July 16th, was ten feet from the ground at the outer end of a limb of a large hemlock, very well concealed by a large grape vine that covered the tree.

Blue-headed Vireo—*Lanivireo solitarius solitarius.* A plentiful summer resident. A late nest found Aug. 8th, held four well-fledged young and was ten feet from the ground in the top of a small table-mountain pine (*Pinus pungens*), at the edge of an open spot in the woods. The situation seemed unusual to me in that the nest was suspended from two small limbs close to the main trunk and not from the fork of one branch. The adult birds were rather timid, and very suspicious, beginning to scold when anyone was within one hundred feet of the nest.

Black-throated Blue Warbler—*Dendroica caerulescens caerulescens.* Common deep in the woods. A nest found July 3rd, held one fresh egg, and was half a foot from the ground in a small laurel bush. It was composed of grasses and strips of bark, lined with black rootlets and the white hair of some animal. No birds were observed anywhere near it.

Black-throated Green Warbler—*Dendroica virens.* Abundant wherever hemlocks or white pines occurred. An unusually late nest was found Aug. 2nd, holding at the time three well incubated eggs. It was fifteen feet from the ground at the outer end of a limb of a large white pine, and was composed of small twigs, strips of bark, rope fibre, grasses and spiders' egg-cases, lined with fine grasses and cow hair.

Catbird—*Dumetella carolinensis.* A scarce summer resident. The reason for the lack of abundance of these birds I was unable to determine, for there were many places evidently well suited to their needs. One nest found July 31st, held three half-grown young, and was five feet from the ground in a rhododendron bush at the edge of a thicket in a slightly open spot in the woods. This nest was interesting to me in that it showed where these birds were probably found before the country was cleared of the large forests that existed at one time.

House Wren—*Troglodytes aëdon aëdon.* A fairly plentiful summer resident in the open valleys. A nest found Aug. 6th, held four incubated eggs, and was eight feet from the ground in a limb of a large dead apple tree in an orchard. This is my latest breeding date for this species.

Red-breasted Nuthatch—*Sitta canadensis.* On July 22nd, one of these birds was seen feeding in the top of a large white pine halfway up the side of a mountain. This was a little early for it to be a fall migrant, so this species undoubtedly breeds here.

Bluebird—*Sialia sialis sialis.* A common summer resident. On July 14th, a nest was found with five slightly incubated eggs, six feet from the ground in a cavity in the trunk of a large pear tree, at the edge of a field.

Report on the Spring Migration of 1916.

COMPILED BY WITMER STONE.

Fifty schedules were returned this season and the D. V. O. C. Committee on Migration extends thanks to the observers for their continued co-operation. Information and blank schedules may be had at any time by applying to Dr. Witmer Stone, Academy of Natural Sciences, Logan Square, Philadelphia. We should be glad to have the names of additional observers especially at points within ten miles of Philadelphia. Attention is again called to the "Suggestions for Observers," published in the 1914 Report. A careful study of the dates etc., there presented will guard the observer against many possible errors of identification. The presence of a species long before its regular time of arrival calls for careful study to make sure that it is not something else. Additional copies of the "Suggestions" may be had upon application.

Observers for the Spring of 1916 were as follows :

New Jersey.

Cape May, H. W. Hand.
Atlantic City, Mrs. N. S. Cromie.
Vineland, Mrs. A. K. Prince.
Downstown, W. W. Fair.
Camden, J. K. Potter.
Audubon, J. W. Tatum.
Moorestown, Miss A. A. Mickle, S. S. Haines, M. A. Linton and E. A. Roberts.
Moorestown, Mrs. V. Wierman.
Rancocas, Miss E. Haines.
Mt. Holly, N. D. W. Pumyea.
Beverly, D. G. Baird.
Bordentown, Miss M. V. Flynn.
Allentown, Miss M. E. Gorden.

Pennsylvania.

Concordville, Mrs. K. R., Miss E. P. and J. F. Styer.
Media, S. Omensetter.
Media, J. P. Moore.
Media, Miss L. G. Allen.
Media, Miss M. E. Yarnall.
Media, Miss H. A. Walker.
Moylan, Miss L. M. Jacob.
Moylan, Miss J. H. Binney, and others.
Swarthmore, Dr. S. C. Palmer.
Swarthmore, P. E. Howard.
Ridley Park, R. L. Lloyd.
Ridley Park, C. V. Gross.
Addingham, D. E. Culver.
Lansdowne, J. D. Carter.
Norwood, Dr. J. E. Packer.
Chestnut Hill, W. H. Trotter.
Chestnut Hill, E. Norris.
Fairmount Park, Miss L. M. Jacob.
Frankford, R. F. Miller.
Ardmore, W. L. Baily.
Haverford, W. J. Serrill.
Haverford, S. Scoville, Jr.
Bryn Mawr, Miss E. H. Thomas.
Oak Lane, S. H. Barker.
Wayne, Mrs. M. V. Alexander.
Wayne, Miss Mildred Cornelius.
Wayne, Miss M. K. Baker.
Westtown, W. B. Evans and S. C. Jones.
West Chester, R. P. Sharples.
West Chester, I. G. Roberts.
West Chester, Miss S. C. DeHaven.
Newtown, Rev. A. Patman.
Doylestown, G. MacReynolds.
Forestgrove, Miss A. K. Bewley.
Buckingham, Miss E. C. Cox.
Collegeville, W. A. Kline.
Lopez, O. Behr.

Severe weather after the beginning of the year, with snow, checked the early migrants; and those which arrive during February and March were about 10 days late. The later migrants however were about normal. The year was notable for the large numbers of the rarer Warblers which were reported. The Bay-breasted and Golden-winged were especially abundant and were reported from nearly every station. Red-breasted Nuthatches were present all winter at many points and were generally noticed in the spring migration. Another noteworthy occurrence was a great flight of Cedar Waxwings which spread over the country about April 1, and remained as long as there were any berries to be found on either wild or cultivated bushes or vines.

Name.	Rancocas, N. J. N. 4; E. 16.	Moorestown, N. J. N. 1; E. 12.	Camden, N. J. N. 0; E. 2.	Audubon, N. J. S. 4; E. 5.	Media and Moylan, Pa. S. 2; W. 12.	Swarthmore, Pa. S. 3; W. 10.	Norwood, Pa. S. 4; W. 7.	Ridley Park, Pa. S. 5; W. 9.	Lansdowne, Pa. S. 1; W. 6.	Addingham, Pa. S. 1; W. 8.	Ardmore and Haverford, Pa. N. 4; W. 8.	Bryn Mawr, Pa. N. 4; W. 9.	Wayne, Pa. N. 6; W. 11.	Fairmount Park, Phila., Pa. N. 0; W. 2.	Chestnut Hill, Phila. N. 8; W. 1.	Frankford, Phila. N. 5; E. 5.	Oak Lane, Phila. N. 7; E. 2.
Canada Goose	. . .	. . .	. . .	. . .	. . .	Apr. 28	. .	. . .	. . .	. . .	Apr. 24	. . .	. . .	. . .	. . .	Feb. 25	
Green Heron	May 6	May 4	Apr. 16	Apr. 30	May 3	May 13	Apr. 30	Apr. 21	. . .		Apr. 30	. . .	May 4	. . .	Apr. 29	Apr. 22	Apr. 25
Night Heron	.	Apr. 20	Res.	Apr. 30	Apr. 25	Apr. 29	Apr. 23	. . .	. . .	Apr. 9	. . .	. . .	. . .	. . .	. . .	Apr. 23	
Spotted Sandpiper	May 6	Apr. 29	Apr. 22	May 9	Apr. 25	Apr. 29	Apr. 23	. . .	. . .	Apr. 22	Apr. 29	. . .	May 2	.	May 6	Apr. 24	
Solitary Sandpiper	May 6	Apr. 30	May 2	Apr. 30	May 6	May 2	Apr. 21	May 21	. . .	. . .	May 6	. . .	May 18	. . .	May 20	May 5	
Killdeer	Mar. 13	Mar. 14	Mar. 19	Mar. 12	Mar. 25	Apr. 11	Mar. 12	Apr. 21	. . .	Mar. 25	Mar. 26	. . .	May 18	. . .	Mar. 26	Feb. 8	Mar. 18
Dove	. .	Mar. 7	Mar. 25	Mar. 26	Mar. 26	Mar. 19	Apr. 2	. . .	Apr. 5	Apr. 2	Mar. 25	Mar. 20	Apr. 24	. . .	Mar. 25	Mar. 5	Apr. 15
Osprey	. . .	. . .	Apr. 27	Apr. 23	. . .	Apr. 19	Apr. 16	. . .	. . .	Apr. 9	Apr. 22	. . .	. . .	. . .	. . .	Apr. 1	
Turkey Vulture	Mar. 15	. . .	May 13	Mar. 26	Mar. 13	Mar. 4	Mar. 5	. . .	. . .	Mar. 5	Mar. 11	Mar. 20	May 20	May 31	Mar. 31	Mar. 5	Apr. 9
Yellow-billed Cuckoo	May 4	May 6	May 28	May 9	May 14	May 13	May 4	. . .	. .	May 14	May 7	May 20	May 30	. . .	May 20	May 13	
Black-billed Cuckoo.	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. .	May 9	. . .	May 20	. . .	. . .		
Kingfisher	Mar. 26	Apr. 2	Mar. 26	Apr. 2	Mar. 25	Jan. 24	Mar. 26	Apr. 16	Apr. 2	Apr. 2	Mar. 25	. .	Mar. 31	May 9	Apr. 2	Mar. 30	Mar. 26
Yellow-bellied Sapsucker.	. . .	. . .	Apr. 13	Jan. 9	Mar. 25	Feb. 23	Apr. 24	Jan. 1	Apr. 7	Apr. 29	Apr. 16	. . .	Mar. 24	. . .	. . .	Apr. 2	Mar. 19
Red-headed Woodpecker.	May 4	May 13	May 12	. . .	May 7	May 9	May 4	. . .	. . .	May 6	May 4	. . .	. . .	. . .	May 14	Apr. 28	Apr. 22
Flicker	Mar. 26	Mar. 14	Mar. 12	Jan. 9	Mar. 20	Mar. 20	Mar. 12	Mar. 26	Mar. 25	Mar. 26	Mar. 25	Feb. 22	Mar. 21	Apr. 10	Mar. 25	Mar. 12	Mar. 26
Whip-poor-will	Apr. 28	. . .	Apr. 27	. . .	Apr. 19	May 1	Apr. 27	. . .	. . .	. . .	. . .	May 23	. . .	. . .	. . .	Apr. 23	
Nighthawk	.	Jun. 11	May 8	. . .	. . .	May 17	. . .	May 26	. . .	. . .	. . .	May 30	. . .	May 28	. . .	May 6	
Chimney Swift	Apr. 21	Apr. 20	Apr. 20	Apr. 16	Apr. 20	Apr. 20	Apr. 21	Apr. 21	Apr. 24	Apr. 21	Apr. 25	Apr. 29	Apr. 16	May 2	Apr. 27	Apr. 17	Apr. 23
Hummingbird	May 19	May 11	. . .	May 12	. . .	May 13	. . .	. . .	. . .	. . .	May 14	May 12	May 21	May 19	May 20		
Kingbird	May 6	May 3	May 9	May 13	May 6	May 2	May 7	. . .	. .	May 7	May 5	. . .	May 19	. . .	May 6	May 6	
Crested Flycatcher	May 3	May 3	May 2	Apr. 30	May 3	May 4	May 7	May 21	May 10	May 7	May 1	May 12	May 6	May 22	May 6	May 7	May 6
Phoebe	. . .	Mar. 26	Mar. 25	Mar. 26	Mar. 25	Mar. 25	Apr. 2	. . .	Mar. 25	Mar. 25	Mar. 25	Mar. 20	Mar. 26	Apr. 10	Mar. 25	Mar. 26	Mar. 24

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media and Moylan, Pa.	Swarthmore, Pa.	Norwood, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Addingham, Pa.	Ardmore and Haverford, Pa.	Bryn Mawr, Pa.	Wayne, Pa.	Fairmount Park Phila., Pa.	Chestnut Hill, Phila.	Frankford, Phila.	Oak Lane, Pa.
Wood Pewee	May 18	May 8	May 15	. . .	May 11	May 13	May 6	May 21	May 18	. . .	May 12	May 10	. . .	May 25	. . .	May 19	
Acadian Flycatcher	. . .	May 14	. . .	May 13	. . .	. . .	. . .	. . .	. . .	. . .	May 12	. . .	. . .	. . .	. . .	Jun. 3	
Least Flycatcher	. . .	May 9	May 7	Apr. 21	May 21	May 13	May 19	. . .	. . .	. . .	May 10	. . .	. . .	. . .	. . .	May 3	
Bobolink	May 4	May 3	. . .	. . .	. . .	May 6	May 6	. . .	. . .	. . .	May 27	. . .	. . .	. . .	. . .	May 18	
Cowbird	. . .	. .	. . .	. .	Mar. 28	Mar. 26	Apr. 30	Apr. 20	Mar. 31	. . .	Mar. 27	. . .	. . .	Apr. 11	Apr. 23	Mar. 30	Apr. 20
Red-winged Blackbird	Mar. 25	Mar. 22	Mar. 25	May 12	Mar. 25	Mar. 13	Mar. 12	Apr. 16	Mar. 24	Mar. 26	Mar. 25	. . .	Mar. 31	. . .	Mar. 25	Mar. 5	Mar. 24
Meadowlark	Res.	Res.	Res.	Jan. 16	Mar. 10	Jan. 11	Res.	Mar. 25	May 17	Feb. 21	Feb. 6	Apr. 7	Feb. 17	May 4	Apr. 21	Mar. 7	Res.
Orchard Oriole	May 2	May 4	May 7	May 6	May 28	May 28	May 4	May 12	Apr. 29	. . .	May 8	. . .	May 2	. . .	. . .	May 7	
Baltimore Oriole	May 3	May 3	May 4	May 10	May 3	May 4	May 6	May 12	May 2	May 5	May 2	May 24	May 2	May 4	May 6	May 3	May 2
Rusty Blackbird	. . .	. . .	Apr. 13	. . .	. . .	Apr. 1	Apr. 26	. . .	. . .	. . .	Mar. 12	. . .	. . .	. . .	. . .	Mar. 30	
Purple Grackle	Mar. 11	Feb. 23	Mar. 24	Mar. 16	Mar. 10	Feb. 15	Mar. 8	Mar. 18	Mar. 12	Feb. 19	Feb. 13	Mar. 20	Feb. 29	Apr. 10	. . .	Mar. 12	Mar. 13
Vesper Sparrow	Apr. 11	Apr. 2	Mar. 25	Apr. 2	Mar. 28	Apr. 16	Apr. 18	. . .	Apr. 16	. . .	Mar. 26	. . .	Apr. 20	. . .	Apr 21	Mar. 26	
Savannah Sparrow	Apr. 5	. . .	Apr. 2	Apr. 2	. . .	. . .	Apr. 21	. . .	. . .	. . .	Apr. 8	. . .	. . .	. . .	. . .	Mar. 12	
Grasshopper Sparrow	May 4	May 4	May 28	May 7	May 3	May 6	May 7	. . .	. . .	. . .	Apr. 25	. . .	. . .	. . .	. . .	May 7	
Chipping Sparrow	Apr. 3	Mar. 20	Apr. 7	Apr. 2	Apr. 2	Apr. 1	Apr. 10	Apr. 16	Apr. 1	Apr. 21	Apr. 9	Mar. 31	Apr. 13	Apr. 12	Apr. 20	Apr. 13	Apr. 14
Field Sparrow	Apr. 4	Apr. 2	Res.	Jan. 16	Mar. 21	Jan. 24	Mar. 12	Apr. 16	Apr. 1	Apr. 2	Mar. 19	. . .	Apr. 13	Apr. 11	Apr. 20	Mar. 14	Apr. 5
Swamp Sparrow	May 4	Apr. 20	Res.	Apr. 2	. . .	May 2	Apr. 21	Feb. 2	. . .	. . .	Apr. 23	. . .	. . .	. . .	. . .	Apr. 23	
Fox Sparrow	. . .	Mar. 10	Mar. 19	Mar. 26	Mar. 11	Mar. 11	Mar. 5	. . .	Mar. 19	. . .	Mar. 19	. . .	Mar. 18	. . .	Mar. 25	Mar. 14	
Chewink	Apr. 21	Apr. 13	Apr. 14	Apr. 23	Apr. 16	Apr. 20	Apr. 5	May 2	Apr. 23	Apr. 9	Apr. 22	Apr. 29	Apr. 21	Apr. 17	Apr. 21	Apr. 22	Apr. 22
Rose-breasted Grosbeak	May 6	May 6	May 9	May 7	May 7	May 6	May 4	. . .	May 1	May 13	May 3	. . .	May 4	May 10	May 6		
Indigobird	May 11	May 7	May 11	May 12	May 3	May 6	May 19	May 28	May 8	May 21	Apr. 29	. . .	May 7	May 4	May 6	May 11	May 10
Scarlet Tanager	May 6	May 5	May 6	May 6	May 4	May 2	May 7	May 21	May 3	May 4	May 6	May 5	May 6	May 9	May 6	May 13	May 14
Purple Martin	. . .	Apr. 5	May 21	May 21	. . .	. . .	Apr. 20	. . .	Apr. 18	. . .	. . .	. . .	. . .	May 1	. . .	Apr. 16	

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media and Moylan, Pa.	Swarthmore, Pa.	Norwood, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Addingham, Pa.	Ardmore and Haverford, Pa.	Bryn Mawr, Pa.	Wayne, Pa.	Fairmount Park, Phila, Pa.	Chestnut Hill, Phila.	Frankford, Phila.	Oak Lane, Pa.
Cliff Swallow	. . .	. . .	May 18														
Barn Swallow	Apr. 16	Apr. 20	Apr. 11	Apr. 16	Apr. 16	Apr. 29	Apr. 21	. . .	Apr. 22	Apr. 22	Apr. 23	. . .	May 7	. . .	Apr. 21	Apr. 12	Apr. 21
Tree Swallow	May 6	Apr. 30	Apr. 22	Apr. 30	Apr. 13	Apr. 1	Apr. 23		. . .	. . .	Apr. 15	. . .	. . .	. . .	. . .	Apr. 16	
Bank Swallow	May 11	May 11	May 7	Apr. 16	Apr. 22	. . .	Apr. 30	Apr. 16	. . .	. . .	. . .	. . .	Apr. 21	. . .	. . .	Apr. 22	
Rough-winged Swallow	. . .	. . .	Apr. 22	May 9	. . .	Apr. 29	Apr. 23	. . .	. . .	. . .	Apr. 23	. . .	. . .	. . .	May 6	Apr. 12	
Cedarbird	Apr. 5	Apr. 12	Mar. 18	Apr. 2	Mar. 24	Mar. 16	Mar. 26	Apr. 20	. . .	Mar. 25	Mar. 20	. . .	Mar. 27	Apr. 14	Feb. 22	Mar. 31	
Red-eyed Vireo	May 15	May 7	May 7	May 10	May 6	May 4	May 4	. . .	May 8	May 7	May 6	May 19	May 4	May 9	Apr. 23	May 7	May 7
Warbling Vireo	May 25	May 2	. . .	. . .	. . .	May 13	May 6	. . .	May 2	. . .	May 2	. . .	Apr. 28	. . .	. . .	May 18	
Yellow-throated Vireo	. . .	May 7	May 14	May 13	. . .	May 9	. . .	. . .	May 14	. . .	May 4	. . .	. . .	. . .	May 6	May 19	
Solitary Vireo		May 11	Apr. 11	May 6	. .	May 6	Apr. 26	. . .	. . .	. . .	Apr. 30						
White-eyed Vireo	May 6	Apr. 29	May 7	May 13	May 14	May 8	Apr. 23	. . .	May 3	. . .	May 6	. . .	. . .	May 22	. . .	May 6	
Black and White Warbler	Apr. 29	Apr. 28	Apr. 23	Apr. 30	Apr. 21	Apr. 22	Apr. 23	Apr. 30	Apr. 29	Apr. 29	Apr. 22	May 2	May 2	Apr. 28	Apr. 23	Apr. 22	Apr. 23
Worm-eating Warbler	. . .	May 14	May 7	May 10	. . .	May 4	May 6	. . .	. . .	. . .	May 14	. . .	May 31	. . .	May 6	May 2	
Blue-winged Warbler	May 6	May 6	May 7	May 21	May 6	May 2	May 3	. . .	. . .	May 7	May 3	. . .	May 4	. . .	May 6	May 2	May 16
Parula Warbler	Apr. 30	May 2	May 3	May 6	May 6	May 2	May 3	May 7	May 2	. . .	May 5	May 2	May 4	May 9	May 6	May 7	
Yellow Warbler	Apr. 29	Apr. 22	Apr. 30	Apr. 23	May 4	May 6	Apr. 21	May 2	May 1	May 28	May 2	. . .	May 7	. . .	. . .	Apr. 26	
Black-throated Blue Warbler	. . .	Apr. 30	May 6	May 7	Apr. 27	May 3	May 6	May 7	May 7	May 13	May 2	May 2	May 4	May 19	May 13	May 3	May 5
Myrtle Warbler	Apr. 29	Apr. 20	Apr. 13	Jan. 9	Apr. 13	Apr. 22	Apr. 19	May 7	Apr. 19	Apr. 21	Apr. 23	May 2	Apr. 29	Apr. 28	May 6	Apr. 22	May 7
Magnolia Warbler	. .	May 4	May 7	May 6	May 12	May 4	May 9	May 12	May 6	May 13	May 5	May 2	May 6	May 4	May 6	May 18	May 7
Chestnut-sided Warbler	May 10	May 6	May 6	May 7	May 6	May 2	May 9	May 21	May 6	. . .	May 3	. . .	May 4	May 15	May 6	May 9	May 7
Black-poll Warbler	May 13	May 10	May 7	. . .	May 20	May 13	. . .	May 18	May 4	May 7	May 6	May 19	May 28	May 12	May 18	May 11	
Blackburnian Warbler	. . .	May 11	May 13	May 13	May 5	May 5	May 3	. . .	May 15	May 21	May 8	May 19	May 6	May 16	May 13	May 10	
Black-throated Green Warbler	May 11	Apr. 30	Apr. 30	Apr. 30	May 7	May 6	Apr. 27	Apr. 30	Apr. 29	Apr. 22	Apr. 30	May 10	May 8	May 12	. . .	May 2	

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media and Moylan, Pa.	Swarthmore, Pa.	Norwood, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Addingham, Pa.	Ardmore and Haverford, Pa.	Bryn Mawr, Pa.	Wayne, Pa.	Fairmount Park, Phila., Pa.	Chestnut Hill, Phila.	Frankford, Phila.	Oak Lane, Pa.
Pine Warbler	. . .	. . .	Apr. 16	Apr. 16	. . .	. . .	Apr. 19	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	Apr. 23	
Yellow Palm Warbler	. . .	Apr. 30	Apr. 13	Apr. 2	Apr. 16	Apr. 20	Apr. 21	Apr. 16	Apr. 16	Apr. 21	Apr. 16	May 2	May 7	. . .	. . .	Apr. 14	
Prairie Warbler	May 3	May 3	May 6	. . .	. . .	. . .	May 6	. . .	. . .	. . .	. . .	. . .	May 15	. . .	. . .	May 13	
Ovenbird	May 3	Apr. 30	May 2	May 6	Apr. 26	May 2	May 3	May 2	May 3	May 6	Apr. 30	May 2	May 2	May 10	Apr. 23	May 2	May 7
Water Thrush	. . .	May 9	May 10	May 13	May 6	May 3	Apr. 26	May 21	May 7	. . .	May 5	. . .	May 4	May 4	May 6	May 5	
Kentucky Warbler	. . .	. . .	. . .	. . .	May 6	May 3	May 19		May 11	May 13	May 4	. . .	May 6	May 8	May 6	May 13	May 7
Maryland Yellow-throat	May 4	Apr. 25	May 2	Apr. 23	Apr. 30	Apr. 29	Apr. 21	Mar. 7	Apr. 29	May 7	Apr. 23	May 2	May 1	May 4	May 6	Apr. 29	May 7
Chat	May 22	. . .	. . .	May 11	May 6	May 13	. . .	May 18	. . .	. . .	May 14	. . .	. . .	. . .	May 18	May 11	May 7
Canada Warbler	May 15	May 9	May 6	May 12	May 20	May 13	. . .	May 21	May 13	May 13	May 9	May 12	May 15	May 15	May 14	May 14	
Redstart	Apr. 30	Apr. 30	May 6	May 6	May 7	May 4	May 4	May 7	. . .	May 13	May 5	May 12	May 6	May 18	Apr. 27	May 7	May 7
Catbird	. . .	Apr. 30	May 2	May 6	Apr. 29	May 1	May 3	May 1	May 2	Apr. 21	May 2	Apr. 29	Apr. 21	May 2	Apr. 23	May 2	May 4
Brown Thrasher	Apr. 20	Apr. 21	Apr. 20	Apr. 23	Apr. 16	Apr. 16	Apr. 21	Apr. 21	Apr. 23	Apr. 21	Apr. 18	Apr. 29	Apr. 29	Apr. 17	Apr. 21	Apr. 22	Apr. 21
House Wren	Apr. 26	Apr. 25	Apr. 23	Apr. 23	Apr. 23	Apr. 26	Apr. 21	Apr. 20	Apr. 25	Apr. 22	Apr. 24	Apr. 29	Apr. 30	Apr. 28	Apr. 27	Apr. 23	May 3
Long-bill'd Marsh Wren	. . .	. . .	May 13	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	May 18	. . .	May 17	
Ruby-crowned Kinglet	Apr. 21	Apr. 11	Apr. 13	Apr. 2	Apr. 16	Apr. 16	Apr. 7	Apr. 16	Apr. 21	Apr. 15	Apr. 19	. . .	Apr. 4	Apr. 12	Apr. 20	Apr. 13	May 7
Wood Thrush	May 4	May 4	Apr. 30	May 6	Apr. 28	Apr. 23	May 3	Apr. 21	Apr. 22	Apr. 30	Apr. 30	Apr. 29	Apr. 24	May 3	Apr. 23	May 2	May 1
Wilson's Thrush	May 13	May 6	. . .	May 13	May 4	May 7	May 4	. . .	. . .	. . .	May 2	May 10	May 21	May 16	Apr. 22	Apr. 23	May 4
Gray-cheeked Thrush	. . .	May 21	May 26	May 7	. . .	. . .	. . .	. . .	. . .	. . .	May 14						
Olive-backed Thrush	. . .	May 8	May 4	May 13	. . .	. .	May 4	. . .	May 13	. . .	May 3	May 22	May 2	. . .	. . .	May 16	
Hermit Thrush	Apr. 3	Apr. 21	Apr. 11	Apr. 2	Apr. 7	Apr. 22	Apr. 7	. . .	Apr. 12	Apr. 8	Apr. 8	Apr. 13	Apr. 29	. . .	Apr. 11	Apr. 5	Apr. 9
Robin	Feb. 23	Feb. 20	Mar. 18	Mar. 25	Mar. 13	Mar. 7	Mar. 12	Feb. 26	Mar. 13	Mar. 19	Mar. 18	Mar. 3	Mar. 13	Apr. 11	Mar. 13	Mar. 14	Mar. 9
Bluebird	Mar. 14	Feb. 23	Mar. 8	Mar. 12	Mar. 6	Res.	Mar. 23	Mar. 13	Mar. 13	Mar. 24	Mar. 11	Mar. 3	Mar. 11	. . .	Mar. 25	Feb. 1	Mar. 15

*List of Other Species Reported by Observers during 1916, and Additional Notes on Species Contained in the Schedule. Autumn Dates Refer to Autumn of 1915 Unless Otherwise Stated.**

Holboell's Grebe, *Colymbus holboelli*, Fish House, N. J., April 2 (*Potter*).

Horned grebe, *Colymbus auritus*, Fish House, N. J., April 16 (*Potter*).

Pied-billed Grebe, *Podilymbus podiceps*, Westtown, April 16 (*Jones and Evnas*) ; Neshaminy Creek near Chalfont, August 26, 1915 (*MacReynolds*) ; West Chester, one, April 16–19 (*Roberts*).

Loon, *Gavia immer*, Fish House, N. J., May 7 (*Potter*).

Herring Gull, *Larus argentatus*, Atlantic City, N. J., August 26, 1915—May 25, 1916 (*Cromie*), Port Norris, N. J., August 9, 1915 (*Prince*) ; Mount Holly, N. J., one flew over, March 20 (*Pumyea*) ; Beverly, N. J., October 23—April 30 (*Baird*) ; Lansdowne, two flew over, March 25 (Carter).

Ring-billed Gull, *Larus delawarensis*, Delaware River, Bridesburg to Gloucester, common in March (*Miller*).

Laughing Gull, *Larus atricilla*, Atlantic City, N. J., May 5 (*Cromie*) ; Cape May., N. J., April 25 (*Hand*) ; last seen at mouth of Maurice River, N. J., October 18, 1915 (*Prince*).

Common Tern, *Sterna hirundo*, Little Beach Island, N. J., July 7, 70 nests, one with 4 eggs, 31 with 3 eggs, 30 with 2 eggs, and 8 with 1 egg (*Scoville*).

Black Tern, *Hydrochelidon nigra surinamensis*, a flock of four, May 14 (*Potter*).

Wilson's Petrel, *Oceanites oceanicus*, mouth of Maurice River, N. J., August 23, 1915, two driven into harbor by high winds (*Prince*).

Gannet, *Sula bassana*, Cape May, N. J., April 17 (*Hand*).

Double-crested Cormorant, *Phalacrocorax auritus auritus*, Cape May, N. J., April 20 (*Hand*).

Merganser, *Mergus americanus*, Audubon, N. J., April 2 (*Tatum*) ; Fish House, N. J., March 18—May 7 (*Potter*).

* Localities are in Pennsylvania unless otherwise marked.

Owing to a most unfortunate mistake the last three migration tables in the 1916 Cassinia, mailed to you a few weeks ago, are incorrect; as the columns of dates do not correspond to the localities under which they appear.

We have therefor had the four pages 27--30 reprinted and we would ask you to kindly tear out and destroy these pages in the copy you have, and substitute the enclosed. As the error will cause serious misunderstanding in the future we ask as a particular favor that the substitution be made at once.

To those who received the migration report we are sending a reprint of pages 3--6, which we would ask them to substitute in the same way, as the tables originally published are absolutely misleading.

Delaware Valley Ornithological Club.

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media and Moylan, Pa.	Swarthmore, Pa.	Norwood, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Addingham, Pa.	Ardmore and Haverford, Pa.	Bryn Mawr, Pa.	Wayne, Pa.	Fairmount Park Phila., Pa.	Chestnut Hill, Phila.	Frankford, Phila.	Oak Lane, Pa.
Wood Pewee	May 8	May 15	. . .	May 11	May 13	May 6	May 21	May 18	. . .	May 12	May 10	. . .	May 25	. . .	May 19	. . .	May 18
Acadian Flycatcher	May 14	. . .	May 13	. . .	. . .	. . .	. . .	. . .	. . .	May 12	. . .	. . .	. . .	. . .	Jun. 3		
Least Flycatcher	May 9	May 7	Apr. 21	May 21	May 13	May 19	. . .	. . .	. . .	May 10	. . .	. . .	. . .	. . .	May 3		
Bobolink	May 3	. . .	. . .	. . .	May 6	May 6	. . .	. . .	. . .	May 27	. . .	. . .	. . .	. . .	May 18	. . .	May 4
Cowbird	. .	. .	. .	Mar. 28	Mar. 26	Apr. 30	Apr. 20	Mar. 31	. . .	Mar. 27	. . .	. . .	Apr. 11	Apr. 23	Mar. 30	Apr. 20	
Red-winged Blackbird	Mar. 22	Mar. 25	May 12	Mar. 25	Mar. 13	Mar. 12	Apr. 16	Mar. 24	Mar. 26	Mar. 25	. . .	Mar. 31	. . .	Mar. 25	Mar. 5	Mar. 24	Mar. 25
Meadowlark	Res.	Res.	Jan. 16	Mar. 10	Jan. 11	Res.	Mar. 25	May 17	Feb. 21	Feb. 6	Apr. 7	Feb. 17	May 4	Apr. 21	Mar. 7	Res.	Res.
Orchard Oriole	May 4	May 7	May 6	May 28	May 28	May 4	May 12	Apr. 29	. .	May 8	. . .	May 2	. . .	. . .	May 7	. .	May 2
Baltimore Oriole	May 3	May 4	May 10	May 3	May 4	May 6	May 12	May 2	May 5	May 2	May 24	May 2	May 4	May 6	May 3	May 2	May 3
Rusty Blackbird	. . .	Apr. 13	. . .	. . .	Apr. 1	Apr. 26	.	. . .	. . .	Mar. 12	. . .	. .	. . .	. . .	Mar. 30		
Purple Grackle	Feb. 23	Mar. 24	Mar. 16	Mar. 10	Feb. 15	Mar. 8	Mar. 18	Mar. 12	Feb. 19	Feb. 13	Mar. 20	Feb. 29	Apr. 10	. . .	Mar. 12	Mar. 13	Mar. 11
Vesper Sparrow	Apr. 2	Mar. 25	Apr. 2	Mar. 28	Apr. 16	Apr. 18	. . .	Apr. 16	. . .	Mar. 26	. . .	Apr. 20	. . .	Apr 21	Mar. 26		Apr. 11
Savannah Sparrow	. . .	Apr. 2	Apr. 2	. . .	. . .	Apr. 21	. . .	. . .	. . .	Apr. 8	. . .	. . .	. . .	. . .	Mar. 12	. . .	Apr. 5
Grasshopper Sparrow	May 4	May 28	May 7	May 3	May 6	May 7	. . .	. . .	. . .	Apr. 25	. . .	. . .	. . .	. . .	May 7	. . .	May 4
Chipping Sparrow	Mar. 20	Apr. 7	Apr. 2	Apr. 2	Apr. 1	Apr. 10	Apr. 16	Apr. 1	Apr. 21	Apr. 9	Mar. 31	Apr. 13	Apr. 12	Apr. 20	Apr. 13	Apr. 14	Apr. 3
Field Sparrow	Apr. 2	Res.	Jan. 16	Mar. 21	Jan. 24	Mar. 12	Apr. 16	Apr. 1	Apr. 2	Mar. 19	. . .	Apr. 13	Apr. 11	Apr. 20	Mar. 14	Apr. 5	Apr. 4
Swamp Sparrow	Apr. 20	Res.	Apr. 2	. . .	May 2	Apr. 21	Feb. 2	. . .	. . .	Apr. 23	. . .	. . .	. . .	. . .	Apr. 23	. . .	May 4
Fox Sparrow	Mar. 10	Mar. 19	Mar. 26	Mar. 11	Mar. 11	Mar. 5	. .	Mar. 19	. . .	Mar. 19	. .	Mar. 18	. . .	Mar. 25	Mar. 14		
Chewink	Apr. 13	Apr. 14	Apr. 23	Apr. 16	Apr. 20	Apr. 5	May 2	Apr. 23	Apr. 9	Apr. 22	Apr. 29	Apr. 21	Apr. 17	Apr. 21	Apr. 22	Apr. 22	Apr. 21
Rose-breasted Grosbeak	May 6	May 9	May 7	May 7	May 6	May 4	. . .	May 1	May 13	May 3	. . .	May 4	May 10	May 6	. . .	. .	May 6
Indigobird	May 7	May 11	May 12	May 3	May 6	May 19	May 28	May 8	May 21	Apr. 29	. . .	May 7	May 4	May 6	May 11	May 10	May 11
Scarlet Tanager	May 5	May 6	May 6	May 4	May 2	May 7	May 21	May 3	May 4	May 6	May 5	May 6	May 9	May 6	May 13	May 14	May 6
Purple Martin	Apr. 5	May 21	May 21	. . .	. . .	Apr. 20	. . .	Apr. 18	. . .	. . .	. . .	. . .	May 1	. . .	Apr. 16		

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media and Moylan, Pa.	Swarthmore, Pa.	Norwood, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Addingham, Pa.	Ardmore and Haverford, Pa.	Bryn Mawr, Pa.	Wayne, Pa.	Fairmount Park, Phila, Pa.	Chestnut Hill, Phila.	Frankford, Phila.	Oak Lane, Pa.
Cliff Swallow	. . .	May 18															
Barn Swallow	Apr. 20	Apr. 11	Apr. 16	Apr. 16	Apr. 29	Apr. 21	. . .	Apr. 22	Apr. 22	Apr. 23	. . .	May 7	. . .	Apr. 21	Apr. 12	Apr. 21	Apr. 16
Tree Swallow	Apr. 30	Apr. 22	Apr. 30	Apr. 13	Apr. 1	Apr. 23		. . .	. . .	Apr. 15	. . .	. .	. . .	. . .	Apr. 16	. . .	May 6
Bank Swallow	May 11	May 7	Apr. 16	Apr. 22	. . .	Apr. 30	Apr. 16	. . .	. . .	. . .	. . .	Apr. 21	. . .	. . .	Apr. 22	. . .	May 11
Rough-winged Swallow	. .	Apr. 22	May 9	. .	Apr. 29	Apr. 23	. . .	. . .	. . .	Apr. 23	. . .	. . .	. . .	May 6	Apr. 12		
Cedarbird	Apr. 12	Mar. 18	Apr. 2	Mar. 24	Mar. 16	Mar. 26	Apr. 20	. . .	Mar. 25	Mar. 20	. . .	Mar. 27	Apr. 14	Feb. 22	Mar. 31	. . .	Apr. 5
Red-eyed Vireo	May 7	May 7	May 10	May 6	May 4	May 4	. . .	May 8	May 7	May 6	May 19	May 4	May 9	Apr. 23	May 7	May 7	May 15
Warbling Vireo	May 2		. . .	. . .	May 13	May 6	. . .	May 2	. . .	May 2	. . .	Apr. 28	. . .	. . .	May 18	. . .	May 25
Yellow-throated Vireo	May 7	May 14	May 13	. . .	May 9	. . .	. . .	May 14	. . .	May 4	. . .	. . .	. . .	May 6	May 19		
Solitary Vireo	May 11	Apr. 11	May 6	. .	May 6	Apr. 26	. . .	. . .	. . .	Apr. 30							
White-eyed Vireo	Apr. 29	May 7	May 13	May 14	May 8	Apr. 23	. . .	May 3	. . .	May 6	. . .	. . .	May 22	. . .	May 6	. . .	May 6
Black and White Warbler	Apr. 28	Apr. 23	Apr. 30	Apr. 21	Apr. 22	Apr. 23	Apr. 30	Apr. 29	Apr. 29	Apr. 22	May 2	May 2	Apr. 28	Apr. 23	Apr. 22	Apr. 23	Apr. 29
Worm-eating Warbler	May 14	May 7	May 10	. .	May 4	May 6	. . .	. . .	. . .	May 14	. . .	May 31	. . .	May 6	May 2		
Blue-winged Warbler	May 6	May 7	May 21	May 6	May 2	May 3	. . .	. . .	May 7	May 3	. . .	May 4	. .	May 6	May 2	May 16	May 6
Parula Warbler	May 2	May 3	May 6	May 6	May 2	May 3	May 7	May 2	. . .	May 5	May 2	May 4	May 9	May 6	May 7	. . .	Apr. 30
Yellow Warbler	Apr. 22	Apr. 30	Apr 23	May 4	May 6	Apr. 21	May 2	May 1	May 28	May 2	. . .	May 7	. . .	. . .	Apr. 26	. . .	Apr. 29
Black-throated Blue Warbler	Apr. 30	May 6	May 7	Apr. 27	May 3	May 6	May 7	May 7	May 13	May 2	May 2	May 4	May 19	May 13	May 3	May 5	
Myrtle Warbler	Apr. 20	Apr. 13	Jan. 9	Apr. 13	Apr. 22	Apr. 19	May 7	Apr. 19	Apr. 21	Apr. 23	May 2	Apr. 29	Apr. 28	May 6	Apr. 22	May 7	Apr. 29
Magnolia Warbler	May 4	May 7	May 6	May 12	May 4	May 9	May 12	May 6	May 13	May 5	May 2	May 6	May 4	May 6	May 18	May 7	
Chestnut-sided Warbler	May 6	May 6	May 7	May 6	May 2	May 9	May 21	May 6	. . .	May 3	. . .	May 4	May 15	May 6	May 9	May 7	May 10
Black-poll Warbler	May 10	May 7	. . .	May 20	May 13	. . .	May 18	May 4	May 7	May 6	May 19	May 28	May 12	May 18	May 11	. . .	May 13
Blackburnian Warbler	May 11	May 13	May 13	May 5	May 5	May 3	. . .	May 15	May 21	May 8	May 19	May 6	May 16	May 13	May 10		
Black-throated Green Warbler	Apr. 30	Apr. 30	Apr. 30	May 7	May 6	Apr. 27	Apr. 30	Apr. 29	Apr. 22	Apr. 30	May 10	May 8	May 12	. . .	May 2	. . .	May 11

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media and Moylan, Pa.	Swarthmore, Pa.	Norwood, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Addingham, Pa.	Ardmore and Haverford, Pa.	Bryn Mawr, Pa.	Wayne, Pa.	Fairmount Park, Phila., Pa.	Chestnut Hill, Phila.	Frankford, Phila.	Oak Lane, Pa.
Pine Warbler	. . .	Apr. 16	Apr. 16	. . .	. . .	Apr. 19	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	Apr. 23		
Yellow Palm Warbler	Apr. 30	Apr. 13	Apr. 2	Apr. 16	Apr. 20	Apr. 21	Apr. 16	Apr. 16	Apr. 21	Apr. 16	May 2	May 7	. . .	. . .	Apr. 14		
Prairie Warbler	May 3	May 6	. . .	. . .	. . .	May 6	. . .	. . .	. . .	. . .	. . .	May 15	. . .	. . .	May 13	. . .	May 3
Ovenbird	Apr. 30	May 2	May 6	Apr. 26	May 2	May 3	May 2	May 3	May 6	Apr. 30	May 2	May 2	May 10	Apr. 23	May 2	May 7	May 3
Water Thrush	May 9	May 10	May 13	May 6	May 3	Apr. 26	May 21	May 7	. . .	May 5	. . .	May 4	May 4	May 6	May 5		
Kentucky Warbler	. . .	. . .	. . .	May 6	May 3	May 19		May 11	May 13	May 4	. . .	May 6	May 8	May 6	May 13	May 7	
Maryland Yellow-throat	Apr. 25	May 2	Apr. 23	Apr. 30	Apr. 29	Apr. 21	Mar. 7	Apr. 29	May 7	Apr. 23	May 2	May 1	May 4	May 6	Apr. 29	May 7	May 4
Chat	. . .	. . .	May 11	May 6	May 13	. . .	May 18	. . .	. . .	May 14	. . .	. . .	. . .	May 18	May 11	May 7	May 22
Canada Warbler	May 9	May 6	May 12	May 20	May 13	. . .	May 21	May 13	May 13	May 9	May 12	May 15	May 15	May 14	May 14	. . .	May 15
Redstart	Apr. 30	May 6	May 6	May 7	May 4	May 4	May 7	. . .	May 13	May 5	May 12	May 6	May 18	Apr. 27	May 7	May 7	Apr. 30
Catbird	Apr. 30	May 2	May 6	Apr. 29	May 1	May 3	May 1	May 2	Apr. 21	May 2	Apr. 29	Apr. 21	May 2	Apr. 23	May 2	May 4	
Brown Thrasher	Apr. 21	Apr. 20	Apr. 23	Apr. 16	Apr. 16	Apr. 21	Apr. 21	Apr. 23	Apr. 21	Apr. 18	Apr. 29	Apr. 29	Apr. 17	Apr. 21	Apr. 22	Apr. 21	Apr. 20
House Wren	Apr. 25	Apr. 23	Apr. 23	Apr. 22	Apr. 26	Apr. 21	Apr. 20	Apr. 25	Apr. 22	Apr. 24	Apr. 29	Apr 30	Apr. 28	Apr. 27	Apr. 23	May 3	Apr. 26
Long-bill'd Marsh Wren	. . .	May 13	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	May 18	. . .	May 17		
Ruby-crowned Kinglet	Apr. 11	Apr. 13	Apr. 2	Apr. 16	Apr. 16	Apr. 7	Apr. 16	Apr. 21	Apr. 15	Apr. 19	. . .	Apr. 4	Apr. 12	Apr. 20	Apr. 13	May 7	Apr. 21
Wood Thrush	May 4	Apr. 30	May 6	Apr. 28	Apr. 23	May 3	Apr. 21	Apr. 22	Apr. 30	Apr. 30	Apr. 29	Apr. 24	May 3	Apr. 23	May 2	May 1	May 4
Wilson's Thrush	May 6	. . .	May 13	May 4	May 7	May 4	. . .	. . .	. . .	May 2	May 10	May 21	May 16	Apr. 22	Apr. 23	May 4	May 13
Gray-cheeked Thrush	May 21	May 26	May 7	. . .	. . .	. . .	. . .	. . .	. . .	May 14	. . .	. . .	. . .	. . .	. . .		
Olive-backed Thrush	May 8	May 4	May 13	. . .	. .	May 4	. . .	May 13	. . .	May 3	May 22	May 2	. . .	. . .	May 16		
Hermit Thrush	Apr. 21	Apr. 11	Apr. 2	Apr. 7	Apr. 22	Apr. 7	. . .	Apr. 12	Apr. 8	Apr. 8	Apr. 13	Apr. 29	. . .	Apr. 11	Apr. 5	Apr. 9	Apr. 3
Robin	Feb. 20	Mar. 18	Mar. 25	Mar. 13	Mar. 7	Mar. 12	Feb. 26	Mar. 13	Mar. 19	Mar. 18	Mar. 3	Mar. 13	Apr. 11	Mar. 13	Mar. 14	Mar. 9	Feb. 23
Bluebird	Feb. 23	Mar. 8	Mar. 12	Mar. 6	Res.	Mar. 23	Mar. 13	Mar. 13	Mar. 24	Mar. 11	Mar. 3	Mar. 11	. . .	Mar. 25	Feb. 1	Mar. 15	Mar. 14

*List of Other Species Reported by Observers during 1916, and Additional Notes on Species Contained in the Schedule. Autumn Dates Refer to Autumn of 1914 Unless Otherwise Stated.**

Holboell's Grebe, *Colymbus holboelli*, Fish House, N. J., April 2 (*Potter*).

Horned Grebe, *Colymbus auritus*, Fish House, N. J., April 16 (*Potter*).

Pied-billed Grebe, *Podilymbus podiceps*, Westtown, April 16 (*Jones and Evans*); Neshaminy Creek near Chalfont, August 26, 1915 (*MacReynolds*); West Chester, one, April 16-19 (*Roberts*).

Loon, *Gavia immer*, Fish House, N. J., May 7 (*Potter*).

Herring Gull, *Larus argentatus*, Atlantic City, N. J., August 26, 1915–May 25, 1916 (*Cromie*), Port Norris, N. J., August 9, 1915 (*Prince*); Mount Holly, N. J., one flew over, March 20 (*Pumyea*); Beverly, N. J., October 23–April 30 (*Baird*); Lansdowne, two flew over, March 25 (*Carter*).

Ring-billed Gull, *Larus delawarensis*, Delaware River, Bridesburg to Gloucester, common in March (*Miller*).

Laughing Gull, *Larus atricilla*, Atlantic City, N. J., May 5 (*Cromie*); Cape May., N. J., April 25 (*Hand*); last seen at mouth of Maurice River, N. J., October 18, 1915 (*Prince*).

Common Tern, *Sterna hirundo*, Little Beach Island, N. J., July 7, 70 nests, one with 4 eggs, 31 with 3 eggs, 30 with 2 eggs, and 8 with 1 egg (*Scoville*).

Black Tern, *Hydrochelidon nigra surinamensis*, a flock of four, May 14 (*Potter*).

Wilson's Petrel, *Oceanites oceanicus*, mouth of Maurice River, N. J., August 23, 1915, two driven into harbor by high winds (*Prince*).

Gannet, *Sula bassana*, Cape May, N. J., April 17 (*Hand*).

Double-crested Cormorant, *Phalacrocorax auritus auritus*, Cape May, N. J., April 20 (*Hand*).

Merganser, *Mergus americanus*, Audubon, N. J., April 2 (*Tatum*); Fish House, N. J., March 18–May 7 (*Potter*).

* Localities are in Pennsylvania unless otherwise marked.

Names.	Cape May, N. J. E. 13; S. 72.	Atlantic City, N. J. E. 42; S. 42.	Vineland, N. J. E. 7; S. 32.	Downstown, N. J. E. 11; S. 28.	Mt. Holly, N. J. E. 19; N. 3.	Concordville, Pa. W. 20; S. 5.	West Chester, Pa. W. 24; N. 0.	Westtown, Pa. W. 21; S. 2.	Newtown, Pa. N. 19; E. 10.	Beverly, N. J. E. 13; N. 8.	Bordentown, N. J. E. 29; N. 13.	Allentown, N. J. E. 31; N. 16.	Doylestown, Pa. E. 1; N. 26.	Buckingham, Pa. E. 4; N. 26.	Forestgrove, Pa. E. 2; N. 28.	Collegeville, Pa. W. 16; N. 18.	Lopez, Pa. W. 60; N. 103.
Flicker	Res.	Mar. 25	Res.	Mar. 27	Feb. 29	Apr. 1	Mar. 26	Mar. 31	Apr. 28	Mar. 26	.....	Mar. 10	Mar. 26	Mar. 31	Mar. 24	Apr. 3	Apr. 15
Whip-poor-will	Apr. 30	.....	Apr. 16	May 5	May 1	.....	.....	.....	.....	.....	May 15	.....	.....	Apr. 25	May 12	.....	Apr. 30
Nighthawk	.....	.....	.....	.....	May 26	May 25	May 13	.....	.....	May 14	Jun. 1	.....	.....	.....	May 11	.....	
Chimney Swift	Apr. 21	.....	Apr. 29	May 1	Apr. 23	Apr. 19	Apr. 19	Apr. 11	Apr. 20	Apr. 24	Apr. 20	.....	Apr. 20	Apr. 26	Apr. 21	Apr. 25	
Hummingbird	Apr. 30	.....	May 11	.....	.....	May 24	May 18	.....	.....	May 14	.....	May 16	May 25	May 28	May 12	.....	
Kingbird	Apr. 30	May 6	May 6	May 3	May 11	May 1	May 4	May 8	.....	May 14	.....	May 11	Apr. 30	May 8	Apr. 30	May 5	May 7
Crested Flycatcher	Apr. 30	.....	Apr. 30	May 4	May 2	May 1	May 2	May 4	.....	Apr. 30	.....	May 12	May 5	May 8	May 6	May 9	
Phoebe	Mar. 19	.....	Apr. 20	.....	Mar. 26	Mar. 21	Mar. 26	Apr. 1	Mar. 24	Mar. 26	.....	Apr. 29	Mar. 26	Mar. 26	Mar. 25	Mar. 30	Mar. 26
Bobolink	May 7	.....	.....	.....	May 14	May 8	May 4	Apr. 10	Mar. 20	.....	.....	.....	May 13	May 12	May 6	.....	
Cowbird	Mar. 16	.....	.....	.....	May 2	Mar. 30	Apr. 2	Apr. 1	Apr. 10	.....	Feb. 28	.....	Apr. 30	Apr. 28	Apr. 30	.....	
Red-winged Blackbird	Feb. 18	Apr. 7	Res.	Mar. 21	Mar. 24	Mar. 13	Mar. 12	Apr. 5	Mar. 20	Mar. 10	Feb. 28	.....	Mar. 21	Mar. 25	Mar. 25	Apr. 18	Mar. 26
Baltimore Oriole	May 2	May 25	May 4	May 7	May 7	May 2	May 3	May 10	Apr. 20	May 7	.....	May 2	May 3	May 3	May 2	May 2	
Purple Grackle	Feb. 18	.....	Res.	.....	Mar. 12	Mar. 12	Mar. 12	Mar. 10	Mar 13	Mar. 12	.....	Mar. 25	Res.	Mar. 13	Jan 1	Mar. 8	
Chipping Sparrow	Apr. 16	.....	Mar. 31	Apr. 2	Apr. 10	Apr. 1	Apr. 13	Apr. 13	Apr. 7	Apr. 2	Apr. 15	Apr. 20	Mar. 26	Apr. 3	Apr. 13	Apr. 25	Apr. 25
Chewink	Res.	Mar. 12	Apr. 21	Apr. 30	Apr. 23	Apr. 21	Apr. 15	Apr. 21	Apr. 25	Apr. 23	.....	May 10	Apr. 2	Apr. 17	Apr. 20	Apr. 19	Apr. 30
Indigobird	May 8	.....	May 10	.....	May 11	May 5	May 8	May 9	.....	May 19	.....	May 11	May 17	May 12	May 10	May 9	
Scarlet Tanager	May 8	May 9	May 15	May 14	May 11	May 2	May 10	May 9	.....	May 9	May 2	May 18	May 14	May 15	May 7	May 15	
Purple Martin	Apr. 14	.....	Apr. 13	Apr. 5	Apr. 5	Apr. 30	Mar. 30	.....	Apr. 26	Apr. 20	Apr. 20	Apr. 20	Apr. 14	Apr. 6	Apr. 14	.....	
Barn Swallow	Apr. 27	Apr. 22	Apr. 20	May 14	Apr. 16	Apr. 13	Apr. 16	Apr. 16	Apr. 29	Apr. 26	.....	May 7	Apr. 20	Apr. 20	Apr. 17	Apr. 18	Apr. 16
Red-eyed Vireo	.....	.....	May 9	May 12	May 4	May 6	May 6	May 8	.....	May 6	May 2	.....	May 26	May 6	May 7	May 19	
Black and White Warbler	Apr. 30	Apr. 29	May 11	May 14	Apr. 23	Apr. 29	Apr. 22	Apr. 26	Apr. 29	Apr. 23	Apr. 30	May 8	Apr. 30	Apr. 29	Apr. 30	May 1	Apr. 30
Chestnut-sided Warbler	.....	May 25	May 11	.....	Apr. 30	May 6	May 2	May 8	.....	May 8	.....	.....	May 5	May 3	May 21	May 2	
Ovenbird	Apr. 30	May 1	.....	May 3	Apr. 30	Apr. 25	Apr 30	Apr. 30	.....	May 3	May 2	.....	Apr. 30	May 2	Apr. 30	May 15	May 8
Maryland Yellow-throat	Apr. 28	May 1	May 6	Apr. 30	Apr. 30	Apr. 22	May 1	Apr. 30	.....	Apr. 27	May 2	.....	May 5	May 10	May 11	May 4	
Chat	.....	May 15	Apr. 30	May 28	.....	May 11	May 6	May 9	.....	May 14	.....	.....	May 21	May 31	May 10	.....	
Catbird	May 7	May 3	Apr. 30	.....	Apr. 30	May 2	May 1	.....	Apr. 29	May 3	May 5	May 3	May 3	May 4	May 6	May 5	
Brown Thrasher	Apr 23	Mar. 12	Apr. 20	Apr. 22	Apr. 23	Apr. 13	Apr. 20	Apr. 23	Apr. 29	Apr. 23	Apr. 30	May 7	Apr. 20	Apr. 21	Apr. 19	Apr. 24	Apr. 23
House Wren	May 2	May 5	Apr. 28	Apr. 30	Apr. 28	Apr. 25	Apr. 21	Apr. 28	.....	Apr. 26	May 1	May 4	Apr. 15	Apr. 7	Apr. 20	Apr. 18	Apr. 30
Wood Thrush	Apr. 30	.....	May 16	.....	May 1	Apr. 28	Apr. 26	Apr. 30	Apr. 26	Apr. 28	May 1	.....	May 5	May 3	Apr. 13	Apr. 24	
Hermit Thrush	.....	Apr. 15	.....	.....	Apr. 13	Apr. 13	Apr. 13	Apr. 16	.....	Apr. 15	.....	.....	Apr. 11	Apr. 12	Apr. 11	Apr. 10	Apr. 16
Robin	Res.	Jan 18	Res.	Mar. 24	Mar. 8	Mar. 12	Feb. 29	Mar. 11	Mar. 13	Mar. 12	.....	Mar. 9	Mar. 13	Mar. 22	Mar. 13	Mar. 8	Mar. 25
Bluebird	Res.	Mar. 9	Res.	Mar. 13	Mar. 12	Jan. 26	Mar. 11	Mar. 11	Mar. 12	Mar. 25	.....	Mar. 25	Mar. 26	Mar. 11	Res.	Mar. 2	Mar. 25

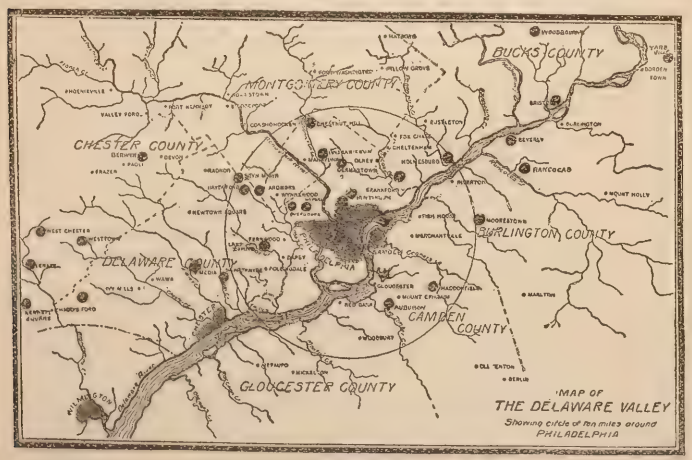


TABLE II.

SPRING MIGRATION, 1916.

EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES AT SEVENTEEN STATIONS OUTSIDE THE PHILADELPHIA CIRCLE.

Mallard, *Anas platyrhynchos*, Audubon, N. J., May 10 (*Tatum*); Little Timber Creek, Gloucester, N. J., April 23 (*Miller*); Pensauken Creek, N. J., April 23 (*Miller*).

Black Duck, *Anas rubripes*, Neshaminy Creek, Doylestown, March 26 (*MacReynolds*); Tinicum, March 12 and May 29, and Gloucester, N. J., April 23 (*Miller*).

Pintail, *Dafila acuta*, Tinicum, March 12 and 26 (*Miller*).

Wood Duck, *Aix sponsa*, Mill Creek, Forrest Grove, March 27 (*Bewley*); Neshaminy Creek, near Doylestown, five birds March 26, first record for 12 years (*MacReynolds*); West Chester, April 15 (*Sharples*).

Scaup, *Marila marila*, Fish House, N. J., March 26–May 7 (*Potter*).

Lesser Scaup, *Marila affinis*, Maurice River below Mauricetown, N. J., October 11, 1915 (*Prince*).

Ruddy Duck, *Erismatura jamaicensis*, Leesburg, N. J., September 27, 1915 (*Prince*).

Canada Goose, *Branta canadensis*, Cape May, N. J., resident all winter 1915-16 (*Hand*), also one all winter in the inlet of Maurice River at Buckshutem, N. J. (*Prince*); Chester, March 21, 27 birds (*Carter*).

Bittern, *Botaurus lentiginosus*, Camden, N. J., April 3 (*Potter*); Moorestown, N. J., March 19 (*Mickle*); Haverford, April 22 (*Serrill*); Media, April 20 (*Allen*).

Least Bittern, *Ixobrychus exilis*, Cape May, N. J., May 7 (*Hand*); Camden, N. J., April 22, also nest with 5 eggs May 10 (*Potter*); Woodbury, N. J., three nests with eggs May 27 and eight pairs bred at Lester (*Miller*); Bridesburg, eggs on May 28 (*Miller*).

Great Blue Heron, *Ardea herodias herodias*, Buckshutem, N. J., August 7 to November 18 (*Prince*); Woodbury, N. J., May 27 (*Miller*); Moorestown, N. J., April 11 (*Wierman*); Audubon, N. J., April 2 (*Tatum*); Haverford, April 2 (*Serrill*); Concordville, April 5 (*Styer*); Neshaminy Creek, Forestgrove, April 14, six seen (*Bewley*); Lopez, April 11 (*Behr*).

Little Blue Heron, *Florida cærulea*, Tohickon Creek, Doylestown, August 8, 1915 (*MacReynolds*); Cape May, N. J., September 3, 1916, 7 birds (*Hand and Stone*).

Night Heron, *Nycticorax nycticorax naevius*, Peermont, N. J., colony of a dozen parents and young, and eggs (second sets), June 4, 1916 (*Miller*).

Yellow-crowned Night Heron, *Nyctinassa violacea*, Atlantic City, N. J., April 13 (*Cromie*) (examined under very favorable circumstances and accurately described).

King Rail, *Rallus elegans*, Cape May, N. J., resident winter of 1915-1916 (*Hand*); Tinicum, May 29 (*Miller*).

Clapper Rail, *Rallus crepitans*, Cape May, N. J., resident; large spring flight, April 25 (*Hand*); Stone Harbor, N. J., June 4, five nests with eggs (*Miller*).

Virginia Rail, *Rallus virginianus*, Bridesburg, two sets of eggs June 9 and one June 13 (*Miller*).

Sora, *Porzana carolina*, Bridesburg, one seen May 28 (*Miller*).

Florida Gallinule, *Gallinula galeata*, Bridesburg, two pair, and Richmond, one pair nesting; nest and eggs at Lester, June 11 (*Miller*).

Woodcock, *Philohela minor*, Cape May, N. J., March 16 (*Hand*); Fish House, N. J., April 22 (*Potter*); Audubon, N. J., May 13 (*Tatum*); Frankford, April 25, and Holmesburg, April 15 (*Miller*); Rosemont, March 25 and April 15 (*Scoville*); Concordville, May 12 (*Styer*); Buckingham, March 29 (*Cox*); Forestgrove, April 30 (*Bewley*); Doylestown, March 29, and May 1 (*MacReynolds*).

Wilson's Snipe, *Gallinago delicata*, Richmond, April 20 and May 28 (*Miller*); Audubon, N. J., May 14 (*Tatum*).

Dowitcher, *Macrorhamphus griseus griseus*, Cape May, N. J., May 7 (*Hand*).

Least Sandpiper, *Pisobia minutilla*, Cape May, N. J., April 22 (*Hand*); Atlantic City, N. J., May 15 (*Cromie*); Camden, N. J., May 6-21 (*Potter*); Frankford, May 11 (*Miller*); Concordville, April 21 (*Styer*).

Semipalmated Sandpiper, *Ereunetes pusillus*, Stone Harbor, N. J., June 4 (*Miller*).

Greater Yellowlegs, *Totanus melanoleucus*, Cape May, N. J., March 21 (*Hand*); Atlantic City, N. J., April 22 (*Cromie*); Camden, N. J., flocks of 2 to 20, May 2–June 1

(*Potter*); Tinicum, April 21, 20-30 (*Packer*); Bridesburg, May 2 and 16 (*Miller*).

Upland Plover, *Bartramia longicauda*, Mount Holly, N. J., eight observed July 21–August 17 (*Pumyea*); Forestgrove, April 16 (*Bewley*); Doylestown, increasing in numbers, bred in the northern part of the county (*MacReynolds*).

Hudsonian Curlew, *Numenius hudsonicus*, Cape May, N. J., April 14 (*Hand*).

Black-bellied Plover, *Squatarola squatarola*, Cape May, N. J., May 7 (*Hand*).

Killdeer, *Oxyechus vociferus*, Buckshutem, N. J., nest with 2 eggs April 5, 5 eggs April 15 (*Prince*); Beverly, N. J., wintered (*Baird*); Bridesburg, December 28, and Harrowgate, nest and eggs June 12 (*Miller*).

Semipalmated Plover, *Aegialitis semipalmata*, Cape May, N. J., April 27 (*Hand*); Moorestown, N. J., May 16 (*Mickle*).

Piping Plover, *Aegialitis meloda*, Stone Harbor, N. J., August 22, 1915 (*Potter*).

Turnstone, *Arenaria interpres*, Cape May, N. J., May 7 (*Hand*); Stone Harbor, N. J., August 22, flock of six (*Potter*).

Bob-white, *Colinus virginianus virginianus*, Fish House, N. J., covey of eight April 23 (*Miller*); Audubon, N. J., May 14 (*Tatum*).

Ruffed Grouse, *Bonasa umbellus umbellus*, Audubon, N. J., May 12 (*Tatum*).

Ring-necked Pheasant, Audubon, N. J., May 21 (*Tatum*).

Mourning Dove, *Zenaidura macroura carolinensis*, Ridley Park, April 30, nest and eggs (*Lloyd*).

Broad-winged Hawk, *Buteo platypterus*, Riverton, N. J., June 3, 1916, nest and three eggs (*Potter*); Frankford, March 21 (*Miller*); Westtown, April 16 (*Jones and Evans*); West Chester, March 19 (*Roberts*).

Rough-legged Hawk, *Archibuteo lagopus sanctijohannis*, Bridesburg, several, December–March 1 (*Miller*).

Bald Eagle, *Haliæetus leucocephalus leucocephalus*, Millville, N. J., November 2, 1916 (*Potter*); Dias Creek, N. J., May 21 (*Miller*); Media, April 22 (*Moore*).

Duck Hawk, *Falco peregrinus anatum*, Chester, February 24 (*Carter*).

Pigeon Hawk, *Falco columbarius columbarius*, Richmond, October 15, 1915 (*Miller*).

Osprey, *Pandion haliaetus carolinensis*, four occupied nests at Buckshutem, N. J., 1916, two birds arrived January 28 during a warm spell (*Prince*); Neshaminy Creek near Forestgrove, April 22 (*Bewley*).

Barn Owl, *Aluco pratincola*, Holmesburg, nest with three eggs and one young just hatched, May 6, young full grown July 8 (*Miller*); Gloucester, N. J., November 20, 1915–April 7 (*Potter*).

Long-eared Owl, *Asio wilsonianus*, Gloucester, N. J., March 11 (*Potter*); Swarthmore, April 16 (*Palmer*); Haddonfield, N. J., April 1 (*Miller*); Forestgrove, six in a cedar grove, January 6 (*Bewley*).

Short-eared Owl, *Asio flammeus*, Gloucester, N. J., February 12 (*Potter*); Camden, N. J., December 19, 1915–April 8, two (*Potter*); Tinicum, March 12 (*Miller*).

Belted Kingfisher, *Ceryle alcyon alcyon*, Mt. Holly, N. J., December 12, 1915 (*Pumyea*); Mill Creek, Forestgrove, several wintered 1915-16 (*Bewley*); several also wintered on Neshaminy Creek, near Doylestown (*MacReynolds*).

Yellow-bellied Sapsucker, *Sphyrapicus varius varius*, Mt. Holly, N. J., October 17, 1915 (*Pumyea*); West Chester, April 13-23 (*Roberts*); Concordville, February 14 (*Styer*); Ridley Park, January 1-15 (*Gross*); Swarthmore, February 23 (*Palmer*); Audubon, N. J., January 9 (*Tatum*).

Red-headed Woodpecker, *Melanerpes erythrocephalus*, Mt. Holly, N. J., two September 12, 1915 (*Pumyea*); Camden, N. J., starting a nest in a telegraph pole on the outskirts of the city May 29 (*Potter*); Fish House, N. J., May 7 (*Miller*).

Nighthawk, *Chordeiles virginianus virginianus*, Moorestown, N. J., numerous October 7-10, 1915 (*Mickle*).

Chimney Swift, *Chaetura pelagica*, last seen, Wayne, October 11 (*Baker*); Moorestown, N. J., October 16, 1915 (*Mickle*).

Ruby-throated Hummingbird, *Archilochus colubris*, last seen, Doylestown, September 16, 1915 (*MacReynolds*).

Phoebe, *Sayornis phoebe*, nest and five eggs, Forestgrove, April 30 (*Bewley*).

YELLOW-BELLIED FLYCATCHER, *Empidonax flaviventris*, Ardmore, May 14 (*Baily*); Doylestown, pair, September 26, 1915 (*MacReynolds*).

BOBOLINK, *Dolichonyx oryzivorus*, Moorestown, N. J., passing south August 20, 1915 (*Mickle*).

COWBIRD, *Molothrus ater ater*, Mill Creek, June 10, 1916, egg in nest of Acadian Flycatcher (*Miller*).

RED-WINGED BLACKBIRD, *Agelaius phoeniceus phoeniceus*, Norwood, January 9, flock of 30 (*Packer*).

RUSTY BLACKBIRD, *Euphagus carolinus*, West Grove, about 12 feeding in a muddy leaf-covered flat near a stream, October 24, 1915 (*Roberts*).

PURPLE GRACKLE, *Quiscalus quiscula quiscula*, a flock wintered with Starlings at Doylestown, about 40 being found dead during the winter in the roost (*MacReynolds*); a flock noticed at Forestgrove several times in December, on January 1 and 6, and early in February (*Bewley*)—doubtless the one above mentioned; Media, January 26 and 27 (*Moore*); Concordville, January 4, 100 birds (*Styer*); West Chester, January 29 (*Roberts*), and January 15 (*Sharples*).

STARLING, *Sturnus vulgaris*, nested at Buckshutem, N. J., feeding young May 16 (*Prince*).

BLUE JAY, *Cyanocitta cristata cristata*, Concordville, none until April 4 (*Styer*); West Chester, none until May 1 (*Roberts*); Media, none until April 16 (*Allen*), and not common until May (*Moore*); Haverford, none until April 30, then common (*Scoville*); Wayne, none until March 27 (*Alexander*).

CROW, *Corvus brachyrhynchos brachyrhynchos*, roost in Black's woods half a mile south of Mt. Holly, N. J. (*Pumyea*), 5,000–6,000 birds have roosted there for the last 50 years.

PURPLE FINCH, *Carpodacus purpureus purpureus*, Media, March 31, very abundant (*Allen*); Mt. Holly, N. J., March 26 (*Pumyea*); Concordville, April 20 – May 12 (*Styer*); Doylestown, April 11–May 5 (*MacReynolds*); West Chester, March 26–May 12 (*Roberts*); last seen, Atlantic City, N. J., April 20 (*Cromie*); Lansdowne, April 20 (*Jacob*); Norwood, April 30 (*Packer*).

Redpoll, *Acanthis linaria linaria*, Wayne, at feeding station February 14 (*Alexander*).

Goldfinch, *Astragalinus tristis tristis*, Downstown, N. J., one seen March 21, few in winter (*Fair*).

Pine Sisken, *Spinus pinus pinus*, Audubon, N. J., January 16 (*Tatum*); Moorestown, N. J., April 30 and May 22 (*Mickle*).

Henslow's Sparrow, *Passerherbulus henslowi*, many heard along Maurice River, N. J., May 11 (*Prince*).

White-crowned Sparrow, *Zonotrichia leucophrys leucophrys*, Buckingham, May 9-13, a pair (*Cox*); West Chester, May 8 on bird, May 13 a pair (*Roberts*).

White-throated Sparrow, *Zonotrichia albicollis*, Vineland, N. J., September 25–April 29 (*Prince*); Moorestown, N. J., September 27–May 15 (*Wierman*); Mt. Holly, N. J., October 12–May 12 (*Pumyea*); Concordville, September 30–May 24 (*Styer*); West Chester, October 13 (*DeHaven*) and March 11–May 27 (*Roberts*); Wayne, October 11–May 17 (*Baker*); Frankford, September 24–May 15 (*Miller*); Buckingham, September 22–December 15, and April 27–May 17 (*Cox*); Doylestown, October 18–May 21 (*MacReynolds*); Moorestown, N. J, October 11–May 11 (*Mickle*); Beverly, N. J., October 27–May 20 (*Baird*); last seen, Atlantic City, N. J., April 20 (*Cromie*); Camden, N. J., May 19 (*Potter*); Ridley Park, May 7 (*Gross*); Swarthmore, May 13 (*Howard*); Moylan, May 6 (*Jacob*); Norwood, May 19, Fairmount Park, May 10 (*Jacob*); Haverford, May 19 (*Scoville*); Forestgrove, April 24 (*Bewley*); arrived at Lopez, April 20 (*Behr*).

Tree Sparrow, *Spizella monticola monticola*, Mt. Holly, N. J., October 15–April 2 (*Pumyea*); Beverly, N. J., October 28–April 2 (*Baird*); Frankford, October 22–April 5 (*Miller*); last seen, Haverford, April 25 (*Scoville*); West Chester, March 26 (*Roberts*).

Junco, *Junco hyemalis hyemalis*, Vineland, N. J., October 11–April 6 (*Prince*); Moorestown, N. J., October 3–April 28 (*Wierman and Mickle*); Mt. Holly, N. J., October 26–May 2 (*Pumyea*); Beverly, N. J., September 26–April 16 (*Baird*);

Concordville, October 18–April 29 (*Styer*); West Chester, October 8–April 30 (*Roberts and DeHaven*); Buckingham, September 20–April 17 (*Cox*); Doylestown, October 17–April 27 (*MacReynolds*); last seen, Atlantic City, N. J., April 24 (*Cromie*); Downstown, N. J., April 16 (*Fair*); Camden, N. J., April 25 (*Potter*); Ridley Park, April 21 (*Gross*); Swarthmore, April 30 (*Howard*); Lansdowne, April 20 (*Jacob*); Norwood, April 26 (*Packer*); Fairmount Park, April 26 (*Jacob*); Haverford, April 28 (*Scoville*); Wayne, first seen October 11, 1915 (*Baker*); Pocono Lake, July 22, 1916, two nests containing young and 4 eggs (*Scoville*).

Rose-breasted Grosbeak, *Zamelodia ludoviciana*, Mt. Holly, N. J., May 8–June 27 (*Pumyea*).

Scarlet Tanager, *Piranga erythromelas*, last seen at Wayne, September 22, 1915 (*Baker*).

Tree Swallow, *Iridoprocne bicolor*, many hundreds on telegraph wires and cornstalks, Mauricetown, N. J., September 10, 1915 (*Prince*).

Cedar Waxwing, *Bombycilla cedrorum*, unusual numbers reported from nearly every station during April; Moorestown, N. J., flocks of 35-125 (*Mickle*); Wayne, flocks of 13-20, March 27-30 (*Alexander*); Haverford, flocks, March 25, and April 15 – May 7 (*Scoville*); West Chester, in great numbers, April 2–June 15 (*Roberts*); West Philadelphia, flock of 13 remained a week at First and Hazel Ave., April 1-8 (*Stone*); Doylestown, several flocks remained February 29–May 26 (*MacReynolds*).

Northern Shrike, *Lanius borealis*, Buckingham, February 24 (*Cox*).

Migrant Shrike, *Lanius ludovicianus migrans*, Mt. Holly, N. J., March 11 and 12 (*Pumyea*); Vineland, N. J., April 13 (*Prince*).

Blue-winged Warbler, *Vermivora pinus*, Dias Creek, N. J., May 21, two birds at different localities (*Miller*); Bustleton, eggs June 1 (*Miller*); Mt. Holly, N. J., October 17, 1915 (*Pumyea*).

Golden-winged Warbler, *Vermivora chrysoptera*, Moorestown, N. J., May 8 (*Wierman*); Mt. Holly, N. J., May 14

(*Pumyea*); Audubon, N. J., May 13 (*Tatum*); Concordville, May 4 (*Styer*); West Chester, May 10-11 (*Roberts*); Camden, N. J., May 6 (*Potter*); Swarthmore, May 13 (*Howard*); Haverford, May 3 (*Serrill*); Buck Hill Falls, one bird seen several times in full song, May 29 and after (*Roberts*); Greenwood Lake, nest with half-grown young, June 15, 1916 (*Potter*).

Nashville Warbler, *Vermivora rubricapilla*, Moorestown, N. J., May 19 (*Wierman*); Audubon, N. J., May 19 (*Tatum*); Camden, N. J. (*Potter*); West Chester, May 4, 6, 10 and 11 (*Roberts*); University of Pennsylvania, Botanic Garden, May 6 (*Packer*); Frankford, May 19 (*Miller*).

Tennessee Warbler, *Vermivora peregrina*, Moorestown, N. J., May 19-28, at least three individuals (*Wierman, Evans*, and *E. Roberts*); Concordville, May 10 and after (*Styer*); West Chester, May 10 and 11 (*Roberts*); Lansdowne, May 17 (*Carter*); Darby, May 23 (*Carter*), and several times later, unusually numerous.

Cape May Warbler, *Dendroica tigrina*, Atlantic City, N. J., May 9 (*Cromie*); Mt. Holly, N. J., May 12 (*Pumyea*); Moorestown, N. J., May 11 (*Mickle*); Audubon, N. J., May 10 (*Tatum*); Camden, N. J., May 9-21 (*Potter*); Rancocas, N. J., May 23 (*Haines*); Concordville, May 8-24 (*Styer*); Westtown, May 10 (*Jones and Evans*); West Chester, May 8, quite abundant (*Roberts*); May 11 (*DeHaven*); Swarthmore, May 8 (*Howard*); Haverford, May 6, 13, 14 (*Serrill*); Frankford, May 18 (*Miller*); Ardmore, May 17 (*Baily*); Wayne, May 8 (*Cornelius*); Chestnut Hill, May 20 (*Norris*).

Bay-breasted Warbler, *Dendroica castanea*, Cape May, N. J., May 20-21 (*Miller*); Downstown, N. J., May 14 and 21 (*Fair*); Concordville, May 10-24, very common (*Styer*); Audubon, N. J., May 12 (*Tatum*); West Chester, May 16 (*DeHaven*); common May 21 and later (*Sharples*); Media, May 25 (*Allen*); May 6 (*Yarnell*); Wallingford, May 19 (*Walker*); Moylan, May 20-21 (*Jacob*); Ridley Park, May 20 (*Gross*); Swarthmore, May 13 (*Howard*); May 14 and 19 (*Palmer*); Addingham, May 18, abundant (*Culver*); Norwood, May 27 (*Packer*); Lansdowne, May 14 (*Carter*); Ches-

ter, May 13 (*Carter*); Fairmount Park, May 18-26 (*Jacob*); Frankford, May 13-21 (*Miller*); Ardmore, abundant, May 5-25 (*Baily*); Haverford, May 13, and abundant May 14 and 21 (*Serrill*); Bryn Mawr, May 2-28, common (*Thomas*); Wayne, May 14 (*Baker*); Doylestown, May 21 and 24 (*MacReynolds*); Collegeville, May 19 (*Kline*); Moorestown, N. J., May 11-27, very common (*Mickle*).

Water-thrush, *Seiurus noveboracensis noveboracensis*, Vineland, N. J., August 20, 1915 (*Prince*).

Mourning Warbler, *Oporornis philadelphia*, Moorestown, N. J., May 14 (*Linton*); Holmesburg, May 19, and Frankford, May 19 (*Miller*); Buckingham, May 19 (*Cox*).

Hooded Warbler, *Wilsonia citrina*, Mt. Holly, N. J., May 7 (*Pumyea*); Moorestown, N. J., May 7 (*Wierman*); Camden, N. J., May 2-11 (*Potter*); Swarthmore, May 4 (*Palmer*), and May 6 (*Howard*).

Wilson's Warbler, *Wilsonia pusilla pusilla*, Mt. Holly, N. J., May 21 (*Pumyea*); Audubon, N. J., May 21 (*Tatum*); Concordville, May 13 (*Styer*); Camden, N. J., May 25 (*Potter*); West Chester, May 8 (*Roberts*); Addingham, May 18 (*Culver*); Holmesburg, May 19 (*Miller*); Haverford, May 14, 18 and 21 (*Serrill*); Ardmore, May 14 (*Baily*); Doylestown, May 15 and 21 (*MacReynolds*).

Titlark, *Anthus rubescens*, Concordville, April 22–May 1 (*Styer*); West Chester, April 5, about 30 (*Roberts*); Haverford, April 17, flock (*Scoville*); Bridesburg, April 1 (*Miller*); Forestgrove, March 25 (*Bewley*); Doylestown, April 2-10 (*MacReynolds*).

Catbird, *Dumetella carolinensis*, Wayne, October 5 (*Baker*); Forestgrove, nest in a pear tree 10 feet from the ground (*Bewley*).

Mockingbird, *Mimus polyglottos polyglottos*, Concordville (*Styer*); Cape May, N. J., one in full song (*Baird*).

Brown Thrasher, *Toxostoma rufum*, Mt. Holly, N. J., December 5, 1915 (*Pumyea*).

Winter Wren, *Nannus hiemalis hiemalis*, Mt. Holly, N. J., October 29–February 22 (*Pumyea*); Westtown, March 18–April 7 (*Jones and Evans*); Frankford, September 23–April

23 (*Miller*); West Chester, October 10–April 13 (*DeHaven*); Buckingham, December 10–March 15 (*Cox*); arrived at Moorestown, N. J., October 10, 1915 (*Mickle*); Wayne, September 29, 1915 (*Baker*); last seen at Concordville, April 14 (*Styer*); Forestgrove, March 20 (*Bewley*); Doylestown, March 19 (*MacReynolds*); Media, April 16 (*Allen*); Swarthmore, April 16 (*Howard*).

Brown Creeper, *Certhia familiaris americana*, Mt. Holly, N. J., October 12–April 16, plentiful (*Pumyea*); Beverly, N. J., October 14–April 27 (*Baird*); Frankford, September 30–April 23 (*Miller*); West Chester, October 10–April 29 (*DeHaven and Roberts*); arrived at Vineland, N. J., September 29, 1915 (*Prince*); Wayne, September 25, 1915 (*Baker*); last seen at Atlantic City, N. J., April 16 (*Cromie*); Camden, N. J., April 23 (*Potter*); Ridley Park, April 21 (*Gross*); Swarthmore, April 25 (*Howard*); Concordville, April 22 (*Styer*); Chestnut Hill, April 23 (*Norris*); Forestgrove, April 16 (*Bewley*); Doylestown, April 16 (*MacReynolds*), Moorestown, N. J., October 10–March 22 (Mickle).

Red-breasted Nuthatch, *Sitta canadensis*, Vineland, N. J., October 12–November 11 (*Prince*); Mt. Holly, N. J., October 17 (*Prince*); Concordville, October 4-29 (*Styer*); Moorestown, N. J., all winter (*Mickle*); Wayne, October 15–November 8 (*Baker*); last seen at Atlantic City, N. J., April 16 (*Cromie*); Vineland, N. J., March 18 (*Prince*); Audubon, N. J., May 6 (*Tatum*); West Chester, May 4 and 10 (*Roberts*); Haverford, May 4 and 6, a pair (*Serrill*); University of Pennsylvania, Botanic Garden, May 3 (*Packer*); Fairmount Park, May 3 (*Jacob*); Ashbourne, January 21, and Frankford, May 5 (*Miller*); Moorestown, N. J., May 11 (*Mickle*).

Tufted Titmouse, *Baeolophus bicolor*, Doylestown, observed several times in June, no doubt nested (*MacReynolds*).

Black-capped Chickadee, *Penthestes atricapillus atricapillus*, Westtown, February 28 (*Jones and Evans*); Doylestown, very abundant October 24–March 5, not seen previously since May 17, 1914 (*MacReynolds*).

Golden-crowned Kinglet, *Regulus satrapa satrapa*, Mt.

Holly, N. J., October 17–April 16 (*Pumyea*); Frankford, September 23–April 28 (*Miller*); West Chester, October 20–April 13 (*DeHaven*); Wayne, September 29 – April 20 (*Baker*); last seen at Atlantic City, N. J., April 13 (*Cromie*); Swarthmore, April 16 (*Howard*); Haverford, April 15 (*Scoville*); Forestgrove, April 19 (*Bewley*); Doylestown, April 19 (*MacReynolds*); arrived at Moorestown, N. J., September 25, 1915 (*Mickle*).

Ruby-crowned Kinglet, *Regulus calendula calendula*, arrived at Mt. Holly, N. J., October 12, 1915 (*Pumyea*); Moorestown, N. J., two on December 18, 1915 (*Mickle*).

Blue-gray Gnatcatcher, *Polioptila caerulea caerulea*, Atlantic City, N. J., April 15 (*Cromie*).

Wood Thrush, *Hylocichla mustelina*, arrived at Wayne, October 5 (*Baker*).

Hermit Thrush, *Hylocichla guttata pallasi*, Wayne, October 24–November 8 (*Baker*); Mt. Holly, N. J., two on December 19, 1915 (*Pumyea*).

Robin, *Planesticus migratorius migratorius*, nest and four eggs, Forestgrove, April 28; young left the nest May 28 (*Bewley*).

Abstract of the Proceedings of the Delaware Valley Ornithological Club for 1916

J. FLETCHER STREET, SEC., BEVERLY, N. J.

January 6th, 1916. The 26th annual meeting of the Delaware Valley Ornithological Club. The following officers were elected for the ensuing year :—

President—Henry W. Fowler,
Vice-President—George H. Stuart, 3rd,
Secretary—J. Fletcher Street,
Treasurer—Samuel C. Palmer.

Three visitors and thirty-four members present.

The following Committees were appointed to serve during 1916 :

Field Committee—Messrs. Street, Baily and Tatnall ;

Migration Committee—Messrs. Carter, Stone and Emlen ;

Publication Committee — Messrs. Cope, Morris, Moore and Palmer.

Mr. William L. Baily gave an exhibition of lantern slides, depicting his work among birds, particularly in the Poconos.

January 20th, 1916. Three visitors and sixteen members present. Mr. George H. Stuart, 3rd, addressed the members upon the subject "The Occurence of the Henslow's Sparrow at New Lisbon." The speaker described a trip taken to the locality on May 29th, 1915, at which time a nesting colony of birds was located.

Mr. Carter reported the observance of a White Swan at Wrightsville, Pa., on January 13th, and a flock of five of the Greater Snow Goose at Chester on Dec. 8th. Mr. Street reported the Yellow Palm Warbler at Beverly on Jan. 1st, 1917.

February 3rd, 1916. Three visitors and fifteen members present. Mr. George J. Cooke, of Ambler, Pa., was proposed for Associate membership. Dr. Max M. Peet made a communication entitled :—"Birds of the University Botanical Gardens." The speaker's remarks covered a list of ninety-seven species observed there. The Yellow-bellied Flycatcher and the Tennessee Warbler were mentioned. Mr. Packer supplemented his list by three additional species, making a total of one hundred for this locality.

February 17th, 1916. Two visitors and eighteen members present. Dr. Samuel C. Palmer addressed the Club upon the subject, "Inheritance in Birds." His remarks related to the principles set forth in Mendel's Laws of Inheritance. He explained the natural processes of inherited tendencies determined in fowls, guinea pigs, flowers, etc. The action of Mendel's Laws was advanced as a possible factor in determining species in the past.

March 3rd, 1916. Twenty members present. The following were elected to Associate Membership :—

Mr. George J. Cooke—Ambler, Pa.
Mr. Nelson A. Pumyea—Mt. Holly, Pa.
Mr. Wharton Huber—Gywnned Valley, Pa.
Mr. Robert Riddle—5242 Irving Street, Philadelphia.
Mr. Richard Burdsall—Swarthmore, Pa.

Dr. Clyde H. Ehinger addressed the Club upon an interesting subject, entitled "The Birds of Cold Spring Harbor, L. I." The speaker mentioned his connection with the Biological Laboratory conducted in the locality and the conduct of summer classes in bird-study. Such Carolinian forms as the Cardinal, Kentucky and Worm-eating Warblers were mentioned as of rare occurence. One Lawrence Warbler was observed.

March 16th, 1916. Seventeen members present. Dr. Witmer Stone read a paper entitled "Titian Peale and the Peale's Museum." His remarks related to the ornithological and other activities of Peale and particularly to his work in connection

with the establishment of the Philadelphia Museum. Several expeditions and collections in which Peale took part were described.

April 6th, 1916. Two visitors and twenty-four members present. Dr. E. Leroy Mercer of Swarthmore, Pa, was proposed for Associate Membership. Dr. Spencer Trotter read a paper entitled "The Regional Geography and Faunal Areas of the Delaware Watershed." The communication related to the physical character of the country adjacent to the Delaware River. A general survey of the topographical features of the district was made.

April 20th, 1916. Twenty-seven members present. Mr. Samuel N. Rhoads gave a communication on "Habits of Some Remarkable Humming Birds." His remarks pertained to the Rufous Humming Bird of the Puget Sound District, and to several South American species. The speaker described the notes of the various species and some remarkable habits displayed during the mating season. Mr. Scoville reported the Titlark observed in Haverford on April 17th.

May 4th, 1916. One visitor and twenty-two members present. Mr. Samuel Scoville gave a talk on items of general interest to the Club ; the value of nature study to the growing mind or the value of memories to those who are past their period of activity, and kindred subjects.

May 18th, 1916. Twenty-seven members present. Dr. Spencer Trotter gave a short review of the April number of the *Auk*, and called attention to the Jeane's collection of Audubon's pictures. Mr. Potter followed with an interesting account of the nesting habits of the Least Bittern in the marshes near Camden, N. J. Dr. Stone reviewed briefly a collection of birds from Panama. Dr. C. E. Ehinger exhibited a Mockingbird's nest taken by Mr. Isaac Roberts in the summer of 1915 at Jennersville, Chester County, Pa.

October 5th, 1916. Twenty-one members present. Mt.

Richard Erskine of Wenonah, N. J., was proposed for Associate Membership. Dr. Stone gave a review of the activities of certain of the Club members during the past summer, and commented upon the changes made in the local room of the Academy. Mr. Riddle reported an Egret observed at St. George, Delaware, on Sept. 6th. Dr. Stone reported a small flock of Young Blue Herons at Cape May, New Jersey on Sept. 3rd.

October 19th, 1916. Fourteen members present. The resignation of Mr. Robert Thomas Moore, as Editor of CASSINIA, was accepted with regrets. Dr. Spencer Trotter was elected as the new Editor. The names of Messrs. J. Parker Norris, Jr. No. 2120 Pine St., and George Farnum Brown, Girard Trust Company, were proposed for Associate membership. Mr. George H. Stuart, 3rd, gave a communication entitled "Birds of Orange County, New York." The speaker described a trip taken in the vicinity of Greenwood Lake about the middle of June of the present year. Few typical birds were observed, only the Veery Thrush and the Black-throated Green Warbler being mentioned. Nests of the Louisiana Water Thrush, Hooded and Golden-winged Warblers were found. Mr. Potter, who accompanied Mr. Stuart, followed with some general remarks. Mr. Culver reported the Bewick's Wren at Media on October 3rd, 1916.

November 1st, 1916. Two visitors and twenty-one members present. It was voted that on account of the A. O. U. Convention, to omit the Nov. 16th meeting. The following were elected to Associate Membership:

Dr. E. Leroy Mercer, Swarthmore, Pa.
Mr. Richard Erskine, Wenonah, N. J.
Mr. J. Parker Norris, Jr., No. 2120 Pine St.
Mr. George Farnum Brown, Girard Trust Company.
Mr. Clifford H. Pangborne, 10th and Cherry Sts., Phila.

Mr. Samuel Scoville, Jr., addressed the members of the Club upon the subject "Birds of Little Beach Island." The trip described was taken on July 10th of the present year. Several notable species were observed there, among which were the Piping Plover, Black Skimmer and Least Tern. A large colony

of Common Terns, consisting of about 70 nests, was observed. Laughing Gulls were observed to be nesting in the marshes behind the Island. Mr. Stuart exhibited a wing of a Blue Goose, which was killed on Havre de Grace flats by Mr. Thomas Dixon on Nov. 1st, 1916.

December 7th, 1916. Nineteen members present. Dr. George B. Wood, No. 129 S. 18th street, Phila., was proposed for Associate Membership. Dr. Witmer Stone made a report on the Ornithological section of the Academy. Mr. J. Fletcher Street spoke upon the subject "Notes on Shore Birds." The speaker's observations covered a period of week-ends during the summer and fall months in the vicinity of Peermont, N. J. The life habits of such species as the Sanderling, Ring-necked Plover, Least and Semi-palmated Sandpipers, Upland Plover and others were described.

Mr. George Morris reported the observance of the Evening Grosbeak by Charles Evans at Cinnaminson, N. J., on Dec. 5th, also that Mr. William Haines secured a Goshawk at Cheltenham, Pa., during the week of December 4th. The death of our Associate member, Bartram Griffiths, was announced.

December 21st, 1916. Two visitors and twenty-one members present. Dr. Witmer Stone presented a communication entitled "Cape May and Its Birds." The speaker reviewed the records of the early ornithologists from this locality and advanced the opinion that the shore birds are to be observed in greater abundance than formerly, due to the protection afforded by the Migratory Bird Laws. Mr. Potter reported observing Yellow-Palm Warblers and Horned Lark at Camden on December 18th. Mr. Street reported Crossbills from Beverly on December 10th.

Club Notes

Mr. Robert Thomas Moore has resigned the editorship of Cassinia owing to the press of other interests which require him to be absent from his home in Haddonfield, N. J., for considerable periods of time. Mr. Moore took over the editorship of our annual publication with its fifteenth number in 1911, and for the last five years has faithfully and efficiently served the Club in this respect. The D. V. O. C. extends its thanks to Mr. Moore and its appreciation of his good work in forwarding the interests of Cassinia.

The Thirty-fourth Stated Meeting of the American Ornithologists Union was held at the Academy of Natural Sciences, Philadelphia, November 13th to 16th. Secretary Sage reports the largest registered attendance of members in the history of the Union. Among the many papers read were two by members of the D. V. O. C., "Our Eastern Flycatchers and Their Nesting Sites" by William L. Baily illustrated by lantern slides, and "Some Relationships of the North American Passeres" by Spencer Trotter.

Covington Few Seiss, an Associate Member of the Club for many years, died at his home in Philadelphia on September 5, 1915. Mr. Seiss was the son of the late Dr. Joseph A. Seiss, a prominent Lutheran minister, and was for a number of years past editor of the "Sunday-school Times." He was unmarried. His chief interest was in art and he had long been secretary of the Philadelphia Sketch Club. From early youth he had been interested in natural history and had formed extensive collections of insects, reptiles and osteological material and published several papers on entomology. For a long while he was one of the most regular attendants at the Club meetings and made several communications of interest. He was also a member of

the Academy of Natural Sciences of Philadelphia, the American Entomological Society, and for many years an Associate of the A. O. U.

Bartram W. Griffiths, an Associate Member of the Club, died at his home in Philadelphia, on December 6th, 1916, in his sixtieth year. He was the son of the late Dr. Amos Griffiths and Sarah Bartram Griffiths, the latter a descendant of the famous botanist, John Bartram. Mr. Griffiths had always been deeply interested in natural history and was well informed on local botany and ornithology. His great delight was to take long tramps through the country, and he was in great demand as a guide for walks or hikes, his intimate acquaintance with the great out-doors making him a delightful and instructive companion. Upon leaving high school when eighteen years of age Griffiths became connected with the Bank of North America and rose to be the chief accountant, a position which he held until July, 1915, when he suffered a stroke of apoplexy, a repetition of which resulted in his death. He was unmarried.

Fifteen meetings were held during the year, the average attendance of members being 21.06. Including the visitors in attendance the average is 22.24, which is slightly lower than last year. Twenty-four is the highest average attendance attained by the Club, which was reached in the years 1905–1906 and 1907.

The first outing of the Club was held in the vicinity of May's Landing, N. J., on February 22nd, 1916. The members were entertained at a bungalow and were the guests of Mr. George Spencer Morris. Twenty-five members and guests were present, and twelve species of birds, including a dead Chewink, were noted.

The Good Friday outing, upon April 21st, 1916, was held in the vicinity of Tinicum Island. The day was clear and warm, without perceptible wind. A total of fifty-seven species of birds were noted, including Wood Duck, Scaup Duck, Bittern, Greater Yellowlegs, Osprey, Savanna Sparrow, Solitary Vireo,

Black-throated Green Warbler, Ruby-crowned Kinglet and others. Two visitors and twenty members present.

Decoration Day, May 30th, 1916, was the date of the third Club outing, taken along the valleys of the Tacony and Pennypack Creeks, starting at Crescentville and ending at Bethayres. There were sixteen members present and forty species of birds were observed, several of which were nesting. A bald eagle was noted.

The following desiderata have been added to the D. V. O. C. Collection during the past year :

American Bittern (eggs), R. C. Harlow.
Little Black Rail (eggs), R. C. Harlow.
Great Horned Owl (eggs), P. B. Phillipp.
Alder Flycatcher (eggs), J. D. Carter.
Bronzed Grackle (nest and eggs), J. D. Carter.
Golden-winged Warbler (nest), G. H. Stuart.
Mockingbird (nest), Dr. C. E. Ehinger, for I. G. Roberts.
Golden-crowned Kinglet (nest and eggs), J. D. Carter.
Yellow-bellied Flycatcher (nest and eggs), J. F. Street.

Bibliography, 1916.

Papers Relating to the Birds of Pennsylvania, New Jersey and Delaware

Baily, W. L. Nest of the Alder Flycatcher on the Pocono Mt., Pa. *Auk*, 1916, p. 199.

——— Yellow-bellied Flycatcher (*Empidonax flaviventris*) breeding on the Pocono Mt., Pa. *Auk*, 1916, p. 200.

Chapman, F. M. Petrels on the Hudson. *Bird-Lore*, 1916, p. 105.

Christmas Lists. Numerous Observers. *Bird-Lore*, 1916, pp. 25–28.

Dickey, S. S. The Northern Pileated Woodpecker (in Pennsylvania). *Oölogist*, 1916, pp. 64–70.

Gage, Miss Bert L. Evening Grosbeak at Williamsport, Pa. *Auk*, 1916, p. 325.

Kohler, L. S. The Great Black-backed Gull on the Hudson River. *Oölogist*, 1916, p. 70.

——— Nesting of the Wilson Warbler in New Jersey. *Oölogist*, 1916, p. 104. This is of course an error in identification.

——— Pine Warbler at Bloomfield, N. J. during December, 1915. *Oölogist*, 1916, p. 107. One seen at Bloomfield Center, December 19, 20, and 22.

——— Pine Grosbeak at Tea Neck, N. J. *Oölogist*, 1916, p. 110. A pair seen on January 9, 1916.

——— Notes on the eggs and food of the American Crow. *Oölogist*, 1916, pp. 119–121.

——— Abundance of Sturnella magna in northern New Jersey during the present winter, 1915–1916. *Oölogist*, 1916, p. 136.

——— Red-poll in Bloomfield N. J. on February 12, 1916. *Oölogist*, 1916, p. 149.

——— A February day afield. *Oölogist*, 1916, pp. 163–164.

LIPPINCOTT, J. W. The interesting Barn Owl. *Bird-Lore*, 1916, pp. 91–96.

——— Can the Starling rule Birdland? *Bird-Lore*, 1916, p. 195.

MILLER, R. F. New Jersey Bird Notes. *Oölogist*, 1916, p. 181.

MOORE, R. T. Another Hybrid Warbler from Northern New Jersey. *Auk*, 1916, p. 202.

SHARPLESS, R. P. The Turkey Buzzard. *Oölogist*, 1916, pp. 207–209.

OFFICERS AND MEMBERS

OF THE

Delaware Valley Ornithological Club.

1917.

HENRY W. FOWLER, *President.*
GEORGE H. STUART, 3rd, *Vice-President.*
J. FLETCHER STREET, *Secretary,* Beverly, N. J.
SAMUEL C. PALMER, *Treasurer,* Swarthmore, Pa.

ACTIVE MEMBERS.

WILLIAM L. BAILY, Ardmore, Pa. ..... Founder.
STEWARDSON BROWN, 20 E. Penn St., Germantown, Phila..... *1891
JOHN D. CARTER, Lansdowne, Delaware Co., Pa..... 1900
I. NORRIS DE HAVEN, Ardmore, Pa..... 1891
ARTHUR C. EMLEN, Awbury, Germantown, Phila..... 1897
HENRY W. FOWLER, Langhorne, Pa. 1894
WILLIAM E. HUGHES, M. D., 3945 Chestnut St., W. Phila..... 1891
ROBERT T. MOORE, Haddonfield, N. J..... 1897
GEORGE SPENCER MORRIS, Olney, Phila..... Founder.
SAMUEL C. PALMER, PH. D., Swarthmore College, Swarthmore, Pa.. 1899
JULIAN K. POTTER, 6th and Bailey Sts., Camden, N. J. 1911
JAMES A. G. REHN, 6033 Catherine St., Phila. 1899
SAMUEL N. RHOADS, Haddonfield, N. J. ..... Founder.
WILLIAM E. ROBERTS, 207 McKinley Ave., Lansdowne, Pa. 1901
WILLIAM A. SHRYOCK, 225 S. 6th St., Phila. 1891
WITMER STONE, SC. D., Academy Nat. Sciences, Phila..... Founder.
J. FLETCHER STREET, Beverly, N. J..... 1903
GEORGE H. STUART, 3RD, Girard Trust Co., Phila. 1910
SPENCER TROTTER, M. D., Swarthmore College, Delaware Co., Pa. Founder.
CORNELIUS WEYGANDT, PH. D., Wissahickon Ave. below Frank St., Germantown, Phila. 1891

* Date indicates year of election to Club.

ASSOCIATE MEMBERS.

ROBERT ADAMS, JR., Oak Lane, Pa. 1910
J. HAROLD AUSTIN, M. D., Lansdowne, Pa. 1903
DAVID G. BAIRD, Beverly, N. J. 1913
J. P. BALL, M. D., Frankford, Phila. 1910
EDWIN B. BARTRAM, Wayne, Pa. 1908
GEORGE BEATTY, JR., Beverly, N. J. 1911
ARCHIBALD BENNERS, Ambler, Pa. 1913
GEORGE B. BENNERS, Ambler, Pa. 1913
HENRY S. BORNEMAN, 801 Franklin Bank Bld., Phila. 1913
R. R. PORTER BRADFORD, 146 W. Lehigh Ave., Phila. 1913
PAUL C. BREWER, 261 W. Rittenhouse St., Germantown 1906
GEORGE FARNUM BROWN, Girard Trust Co., Philadelphia, Pa. 1916
RICHARD L. BURDSALL, Swarthmore College, Swarthmore, Pa. 1916
LEWIS S. BYROM, 127 W. Susquehanna Ave., Phila. 1909
GEORGE J. COOKE, Ambler, Pa. 1916
FRANCIS R. COPE, JR., E. Washington Lane, Germantown, Phila. .. 1895
DELOS E. CULVER, Addingham, Pa. 1913
C. E. EHINGER, M. D., West Chester, Pa. 1909
RICHARD ERSKINE, Wenonah, N. J. 1916
WM. S. ESSICK, Union Trust Co. Bld., Harrisburg, Pa. 1908
JOSEPH S. EVANS, Marlton, N. J. 1913
WILLIAM B. EVANS, Westtown, Pa. 1898
GEORGE FORSYTH, West Chester (Route 4), Chester Co., Pa. 1891
FRANK B. FOSTER, Haverford, Pa. 1912
HENRY J. FRY, 224 W. Manheim St., Germantown, Phila. 1915
STEPHEN FUGUET, 1027 Spruce St., Phila. 1911
ARTHUR F. HAGAR, 525 Westview Ave., Germantown, Phila. 1906
SAMUEL S. HAINES, M. D., 124 E. Main St., Moorestown, N. J. 1901
GEORGE H. HALLETT, 199 Owens Ave., Lansdowne, Pa. 1911
DAVID E. HARROWER, Girard College, Phila. 1905
HAROLD M. HARROWER, Swarthmore, Pa. 1914
THOMAS R. HILL, 407 Chestnut St., Phila. 1908
PHILIP E. HOWARD, Haverford College, Haverford, Pa. 1914
WHARTON HUBER, Gwynned Valley, Pa. 1916
EVERETT P. IRWIN, Swarthmore, Pa. 1915
CHARLES S. JACK, DDS., Media, Pa. 1906
WILLIAM W. JUSTICE, JR., 7803 St. Martins Lane, Chestnut Hill, Phila., Pa. 1893
NATHAN KITE, Moylan, Delaware Co., Pa. 1898
JOHN DRYDEN KUSER, Bernardsville, N. J. 1911
SHIPPEN LEWIS, 1820 Pine St., Phila. 1912
M. ALBERT LINTON, 409 Chestnut St., Phila. 1905
JOSEPH B. LODGE, 3340 N. Sixteenth St., Phila. 1900
PARKE L. LONGNECKER, DDS., 2015 Chestnut St., Phila. 1910

David N. McCadden, 5039 Osage Ave., W. Phila..... 1892
William McCall, Jr., 4056 Chestnut St., Phila. 1915
Richard C. McMurtrie, 300 W. Highland Ave., Chestnut Hill, Phila. 1904
Samuel Mason, Jr., 522 Locust Ave., Germantown, Pa..... 1913
Dr. E. Leroy Mercer, Swarthmore, Pa. 1916
Jas. Watts Mercur, Wallingford, Pa. 1914
F. Guy Meyers, 1010 S. Forty-seventh St., W. Phila..... 1896
Isaac P. Miller, 409 Chestnut St., Phila. 1907
Richard F. Miller, 2073 E. Tioga St., Phila. 1908
William O. Miller, 5002 Larchwood Ave., Phila..... 1910
Dr. B. W. Mitchell, 4326 Pine St., Phila. 1914
Wayne B. Morrell, Duffryn Mawr, Pa..... 1905
William Henry Newbold, Art Club, Phila. 1913
Edward Norris, St. Martins, Chestnut Hill, Phila. 1914
J. Parker Norris, Jr., 2120 Pine St., Philadelphia, Pa. 1916
Frederick Oldack, 2008 N. Marvine St., Phila..... 1911
Jesse F. Packer, M. D., Germantown Hospital, Germantown, Phila. 1911
Charles W. Palmer, Westtown Boarding School, Chester Co., Pa. 1910
Clifford H. Pangborne, 10th & Cherry Sts., Philadelphia, Pa. ... 1916
Harry E. Parker, Southampton, Pa. 1915
William Pepper, M. D., 1811 Spruce St., Phila..... 1912
Charles Platt, 3rd, E. Graver's Lane, Chestnut Hill, Phila..... 1912
James F. Prendergast, M. D., 4012 Chestnut St., W. Phila..... 1899
Nelson D. W. Pumyea, Mt. Holly, N. J. 1916
Charles J. Rhoads, 408 Chestnut St., Phila. 1890
Robert Riddle, 5242 Irving St., Philadelphia, Pa. 1916
S. Earl Riddle, Box No. 402, Chester, Pa. 1910
Anthony W. Robinson, 409 Chestnut St., Phila. 1898
William B. Scheuing, 317 N. 63d St., Phila. 1893
Samuel Scoville, Jr., Penna. Bldg., 15th & Chestnut Sts., Phila. .. 1907
Edward A. Selliez, Box 469, Phila. 1902
William J. Serrill, 1401 Arch St., Phila..... 1891
Donald Sherrerd, 9 W. Brown, Princeton, N. J. 1913
Walter G. Sibley, 6626 McCallum St., Germantown, Phila. 1900
L. I. Smith, Jr., 3908 Chestnut St., W. Phila. 1901
William H. Strang, 277½ Chestnut St., Camden, N. J. 1907
Joseph C. Sudders, Olney, Phila. 1910
Samuel A. Tatnall, 409 Chestnut St., Phila. 1910
Joseph W. Tatum, Audubon, N. J..... 1892
Francis H. Tomlin, DDS., Haddonfield, N. J..... 1909
William H. Trotter, Chestnut Hill, Phila. 1899
Henry Tucker, M. D., 2000 Pine St., Phila. 1906
Charles A. Voelker, Aldan, Delaware Co., Pa. ..... Founder.
Paul Vosberg, Franklin Bank Bldg., Phila. 1905
A. L. Wheeler, Ph. D., Bryn Mawr, Pa..... 1905

ALBERT L. WHITAKER, Cedar Grove, Frankford, Phila. 1896
JAMES L. WHITAKER, Cedar Grove, Frankford, Phila. 1904
EDWARD L. WILDMAN, 4331 Osage Ave., Phila. 1914
FRANCIS WINDLE, West Chester, Pa. 1910
EDWARD W. WOOLMAN, 44 N. Thirty-eighth St., W. Phila. 1902
EDWARD WOOLMAN, Haverford, Pa. 1915

HONORARY MEMBER.

WILLIAM LOUIS ABBOTT, M. D., Aldine Hotel, Phila. 1912

CORRESPONDING MEMBERS.

CHARLES H. BAKER, Orlando, Orange Co., Fla. 1900
O. E. BAYNARD, Clearwater, Fla. 1911
THOMAS J. BEANS, Moorestown, N. J. 1895
HERMAN BEHR, Lansdale, Pa. 1897
OTTO BEHR, Lopez, Sullivan Co., Pa. 1897
B. S. BOWDISH, Demarest, N. J. 1913
W. H. BULLER, Marietta, Lancaster Co., Pa. 1895
CHARLES BUVINGER, M. D., Newark, N. J. 1900
EDW. L. CAUM, Honolulu, H. I. 1911
HERBERT L. COGGINS, Berkeley, Cal. 1897
WILLIAM J. CRESSON, Box 249, Pittsburg, Pa. 1899
LIEUT. FRANK B. EASTMAN, U. S. A. 1898
MARCUS S. FARR, Princeton, N. J. 1901
ALFRED M. GITHENS, New York City 1895
HARRY L. GRAHAM, Redlands, Cal. 1897
ALLEN H. GROSH, York, York Co., Pa. 1900
H. WALKER HAND, 1002 Washington St., Cape May, N. J. 1900
WM. E. HANNUM, 1 Holderness St., Holderness, Atlanta, Ga. 1901
RICHARD C. HARLOW, State College, Pa. 1904
CHRESWELL J. HUNT, Oak Park, Ill. 1902
THOMAS H. JACKSON, West Chester, Pa. 1895
J. WARREN JACOBS, Waynesburg, Greene Co., Pa. 1895
THOMAS D. KEIM, N. Y. City 1902
RAYMOND KESTER, Williamsport, Pa. 1892
SAMUEL B. LADD, Reading, Pa. 1895
W. H. LIEBELSPERGER, Fleetwood, N. J. 1913
PAUL L. LORRILLIERE, Baltimore, Md. 1904
EDW. J. F. MARX, Easton, Pa. 1909
WALDRON DE W. MILLER, Plainfield, N. J. 1900
LEONARD S. PEARSON, Baltimore, Md. 1908
MAX M. PEET, M. D., Ann Arbor, Mich. 1913
HOWARD Y. PENNELL, M. D., Downingtown, Pa. 1894

A. H. Phillips, Princeton, N. J. 1895
Earl L. Poole, Reading High School, Reading, Pa. 1910
Alfred C. Redfield, Cambridge, Mass. 1908
H. Justin Roddy, State Normal School, Millersville, Lanc. Co., Pa. 1895
Chas. H. Rogers, Amer. Mus. Nat. Hist., N. Y. City 1905
Robert P. Sharples, West Chester, Pa. 1906
C. F. Silvester, Princeton, N. J. 1901
R. B. Simpson, Warren, Warren Co., Pa. 1907
Frederick Sörensen, Chalmersgarten, Göthenburg, Sweden 1900
Reynold A. Spaeth, Yale University, New Haven, Conn. 1901
Frederick W. Stack, Doubleday Page and Co., N. Y. City 1905
Hugh E. Stone, Coatesville, Pa. 1895
H. A. Surface, Harrisburg, Pa. 1900
W. E. Clyde Todd, Carnegie Museum, Pittsburg, Pa. 1895
Henry Warrington, San Francisco, Cal. 1896
William L. Whitaker, Ada, Okla. 1893
J. Jay Wisler, Columbia, Pa. 1904
Robert T. Young, State University, N. Dakota 1892

DECEASED MEMBERS.

Died.

John Farnum Brown, Active member ..... May 13, 1894
Walter D. Bush, Corresponding member ..... August 11, 1904
William B. Crispin, Corresponding member ..... May 9, 1913
John W. Detwiller, M. D., Corresponding member September 26, 1898
Ernest M. Evans, Associate member ..... June 29, 1911
Bartram W. Griffiths, Associate member ..... December 21, 1916
Henry Hales, Corresponding member ..... November 6, 1913
LaRue K. Holmes, Corresponding member ..... May 10, 1900
Josiah Hoopes, Corresponding member ..... January 16, 1904
August Koch, Corresponding member ..... February 15, 1907
Gilbert H. Moore, Associate member ..... May 28, 1899
Elmer Onderdonk, Associate member ..... September 4, 1913
Frederick N. Owen, Associate member ..... December 27, 1905
William Patterson, Corresponding member ..... August 27, 1900
Chas. J. Pennock, Active member (disappeared), ... May 15, 1913
M. W. Raub, M. D., Corresponding member ..... August 8, 1914
Francis W. Rawle, Associate member ..... June 12, 1911
C. Few Seiss, Associate member ..... September 5, 1915
Edwin Sheppard, Associate member ..... April 7, 1904
William W. Smith, Associate member ..... July 3, 1892
Charles S. Welles, Associate member ..... February 24, 1914
William H. Werner, Corresponding member ..... May 13, 1912
Samuel W. Woodhouse, M. D., Honorary member ... October 23, 1904
Samuel Wright, Active member ..... January 18, 1917

INDEX TO SPECIES

Every mention of a bird, either by common or technical name, *except* in the Migration Report, is indexed under the current technical name of the species.

Acanthis linaria linaria, 36
Accipiter velox, 11
Aegialitis meloda, 33
semipalmata, 33
Aegelaius phoeniceus phoeniceus, 35
Aix sponsa, 9, 31
Aluco pratincola, 11, 34
Ammodramus savannarum australis, 13
Anas platyrhynchos, 31
rubripes rubripes, 8, 31
Anthus rubescens, 39
Antrostomus vociferus vociferus, 12, 20
Archibuteo lagopus sancti-johannis, 11, 33
Archilochus colubris, 34
Ardea herodias herodias, 31
Arenaria interpres interpres, 33
Asio flammeus, 11, 34
wilsonianus, 34
Astragalinus tristis tristis, 21, 36
Astur atricapillus atricapillus, 11

Bæolophus bicolor, 40
Bartramia longicauda, 10, 19, 33
Bombycilla cedrorum, 22, 25, 37
Bonasa umbellus umbellus, 33
Botaurus lentiginosus, 31
Branta canadensis canadensis, 9, 31
Buteo platypterus platypterus, 11, 33
Butorides virescens virescens, 10

Carpodacus purpureus purpureus, 35
Cathartes aura septentrionalis, 10
Certhia familiaris americana, 40
Ceryle alcyon, 34
Chaetura pelagica, 20, 34
Charitonetta albeola, 9
Chordeiles virginianus virginianus, 12, 34
Circus hudsonius, 11
Clangula clangula americana, 9
Coccyzus erythrophthalmus, 12
Colinus virginianus virginianus, 33
Colymbus auritus, 8, 30
holboelli, 30
Corvus brachyrhynchos brachyrhynchos, 35
ossifragus, 12
Coturnicops noveboracensis, 10
Cryptoglaux acadica acadica, 11
Cyanocitta cristata cristata, 35

Dafila acuta, 9, 31
Dendroica cærulescens cærulescens, 22
castanea, 25, 38
coronata, 13
tigrina, 38
virens, 23
Dolichonyx oryzivorus, 35
Dryobates villosus villosus, 12
Dumetella carolinensis, 23, 39

Empidonax flaviventris, 12, 35
trailli trailli, 12
virescens, 12
Ereunetes pusillus, 32
Erismatura jamaicensis, 9, 31
Euphagus carolinus, 13, 35

Falco columbarius columbarius, 34
peregrinus anatum, 11, 33
Florida caerulea caerulea, 31
Fulica americana, 10

Gallinago delicata, 32
Gallinula galeata, 32
Gavia immer, 8, 30

Haliæetus leucocephalus leucocephalus, 11, 33
Harelda hyemalis, 9
Helmitheros vermivorus, 13
Helodromas solitarius solitarius, 19
Hirundo erythrogaster, 22
Hydrochelidon nigra surinamensis, 30
Hylocichla guttata pallasi, 41
mustelina, 41

Iridoprocne bicolor, 37
Ixobrychus exilis, 14, 17, 31

Junco hyemalis hyemalis, 36

Lanius borealis, 37
ludovicianus migrans, 37
Lanivireo solitarius solitarius, 22
Larus argentatus, 8, 30
atricilla, 30
delawarensis, 8, 30
philadelphia, 8
Lophodytes cucullatus, 8

Macrorhamphus griseus griseus, 32
Marila affinis, 9, 31
collaris, 9
marila, 9, 31
Melanerpes erythrocephalus, 12, 20, 34
Meleagris gallopavo silvestris, 19
Melospiza melodia melodia, 22
Mergus americanus, 8, 30
serrator, 8
Mimus polyglottos polyglottos, 39
Molothrus ater ater, 35

Nannus hiemalis hiemalis, 39
Nettion carolinense, 8
Numenius hudsonicus, 33
Nuttallornis borealis, 12
Nyctanassa violacea, 32
Nyctea nyctea, 12
Nycticorax nycticorax naevius, 32

Oceanites oceanicus, 30
Olor columbianus, 9
Oporornis agilis, 13
formosus, 13
philadelphia, 39
Otocoris alpestris alpestris, 12
Oxyechus vociferus vociferus, 10, 33

Pandion haliaetus carolinensis, 11, 34
Passer domesticus domesticus, 21
Passerella iliaca iliaca, 13
Passerherbulus henslowi henslowi, 36
Penthestes atricapillus atricapillus, 40
Petrochelidon lunifrons lunifrons, 22
Phalacrorax auritus auritus, 30
Philohela minor, 32
Phloeotomus pileatus pileatus, 20
Pipilo erythrophthalmus erythrophthalmus, 13
Piranga erythromelas, 37
Pisobia minutilla, 32
Planesticus migratorius migratorius, 41
Podilymbus podiceps, 30
Polioptila caerulea caerulea, 41
Porzana carolina, 32

Querquedula discors, 8
Quiscalus quiscula quiscula, 35

Rallus crepitans crepitans, 32
elegans, 10, 32
virginianus, 10, 32
Regulus calendula calendula, 41
satrapa satrapa, 40

Sayornis phoebe, 21, 34
Seiurus motacilla, 13
noveboracensis noveboracensis, 39
Sialia sialis sialis, 23
Sitta canadensis, 13, 23, 25, 40
Sphyrapicus varius varius, 12, 34
Spinus pinus pinus, 13, 36
Spizella monticola monticola, 36
passerina passerina, 21
Squatarola squatarola, 10, 33
Sterna hirundo, 30
Sturnus vulgaris, 35
Sula bassana, 30

Telmatodytes palustris palustris, 13
Totanus flavipes, 10
melanoleucus, 10, 32
Toxostoma rufum, 39
Troglodytes aëdon aëdon, 23

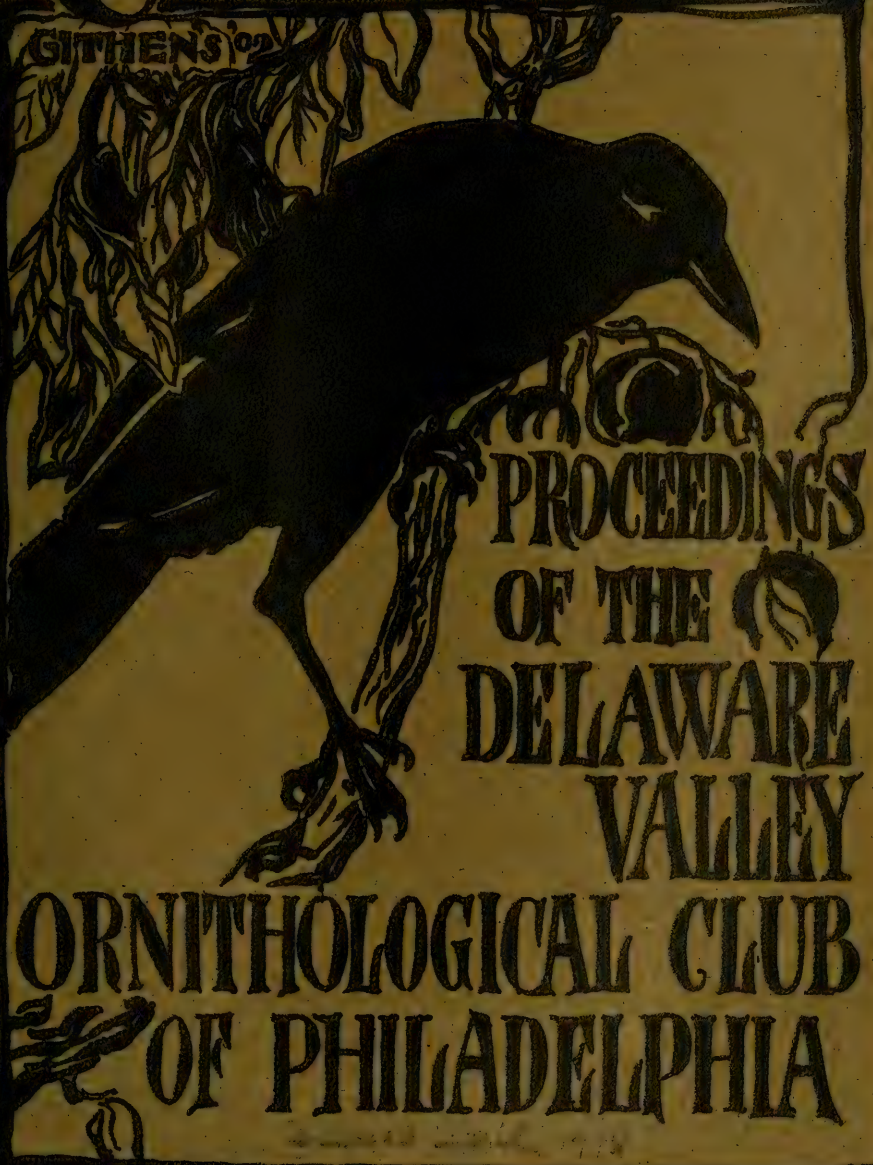
Vermivora chrysoptera, 13, 25, 37
peregrinus, 13, 38
pinus, 37
rubricapilla rubricapilla, 38

Wilsonia citrina, 13, 39
pusilla pusilla, 39

Zamelodia ludoviciana, 37
Zenaidura macroura carolinensis, 10, 33
Zonotrichia albicollis, 36
leucophrys leucophrys, 36

CASSINIA

A BIRD ANNUAL



PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB OF PHILADELPHIA

1917

ISSUED APRIL, 1918

CASSINIA

An Annual Devoted to the Ornithology of Pennsylvania, New Jersey, and Delaware

CONTENTS 1917

		PAGE
Samuel Wright (*Frontispiece*)	WITMER STONE	1
Summer Birds of Pocono	JOHN D. CARTER	6
The Evening Grosbeak	SAMUEL SCOVILLE, JR.	26
Report on the Spring Migration of 1917	WITMER STONE	38
Abstract of the Proceedings of the Delaware Valley Ornithological Club for 1917	J. FLETCHER STREET	59
Club Notes		63
Bibliography, 1917		65
List of Officers and Members of the D. V. O. C., 1918		68
Index to Species		73

PUBLICATIONS OF THE D. V. O. C.

The Birds of Eastern Pennsylvania and New Jersey, by Witmer Stone, pp. 176 with two maps and portrait of Alex. Wilson. One Dollar and a half. (Post paid, $1.62)

Abstract of Proceedings, Full Set Nos. I–IV. (1890–1900) pp. 98, Fifty cents

Cassinia, published annually beginning with 1901; comprising papers relating to the Ornithology of Pennsylvania, New Jersey and Delaware, and an abstract of the proceedings of the Club. Edited beginning with No. XX, 1916, by Spencer Trotter. Subscription price Fifty cents

Address **Delaware Valley Ornithological Club,**
Care **Academy of Natural Sciences,**
Logan Square, Philadelphia.

Contributed articles, books, and all publications should be sent to Dr. Spencer Trotter, Swarthmore College, Swarthmore, Pa.

Publication Committee

GEORGE SPENCER MORRIS, *Chairman*,

DR. SAMUEL C. PALMER, FRANCIS R. COPE, SPENCER TROTTER.

Sam. Wright

CASSINIA

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB

No. XXI. PHILADELPHIA, PA. 1917.

Samuel Wright.

BY WITMER STONE

THERE was established at the Academy of Natural Sciences, many years ago, by members of the Jessup family, a scholarship for the purpose of aiding young men in the study of Natural History. Many of the beneficiaries have attained greater or less eminence in science, while some who from force of circumstances were compelled to enter other fields of activity have had their love of nature so strengthened by their associations at the Academy, that Natural History has ever remained for them a delightful recreation from the tedium of a business life.

The writer became a student on the Jessup Foundation in 1888, this being the only position available in which he could pursue ornithological study at the Academy and care for the then long neglected collection. In December 1891, Samuel Wright, a school-boy nine years his junior, also accepted a Jessup scholarship, and being more interested in birds than in other subjects became associated with him in the care of the collections. This intimate association, lasting until Wright's departure from the Academy to enter a business career, developed a friendship that endured until his death and became ever more cherished as the years rolled by.

259454

The D. V. O. C. had been established just before Wright's advent at the Academy and he became one of the earliest Associate Members. Developing a deeper interest in its activities as he grew older, he was elected an Active Member in 1901, served as Treasurer from 1908 to 1911, and was one of the most active members of the committee in charge of the twentieth anniversary meeting, he and the writer preparing the souvenir publication which was issued at that time. As stated on its pages the Club has succeeded because of the earnest support afforded by the members along various lines. There have always been those who while temporarily prevented from prosecuting field work or original research, have generously lent a hand in such other ways as they were able—caring for the finances, increasing the sociability of the meetings and advancing the publications. Who shall say that these men were not as valuable members as the most active ornithologists among us? And in their front rank stood Samuel Wright. It will always be our great regret that he could not have been spared to enjoy the active participation in field work which the demands of an exacting business life had denied him but to which he was looking forward when a contemplated retirement from business affairs would have left him free to follow his ornithological interests.

"Sam Wright," as we knew him and as he always preferred to sign his name, was born in Conshohocken on the Schuykill River fourteen miles above Philadelphia, on June 22, 1875, the son of William and Frances Cresson Wright and was educated at the Friend's boarding school at Westtown, Chester Co., Pa., where Thomas Say, John K. Townsend, John Cassin, Edward D. Cope and not a few of the members of the D. V. O. C. received their early training. The Quaker influence, ever keen for the study of Natural History, had no doubt much to do with the kindling in the youthful minds of the scholars that interest in birds which in so many cases led later to the more or less serious study of ornithology. In Wright's case it led to his application for a position on the Jessup Foundation through his cousin the late Dr. Benjamin Sharp, who then spent nearly all his time at the Academy and shortly after became its Corresponding Secretary.

Wright and I occupied a small room opening out of the old library on the Race Street front of the building, where the few bird-skins then belonging to the Academy were assembled, consisting mainly of the collection of North American and West Indian birds of Dr. William L. Abbott, who was then in Africa on his first exploring expedition. All of these Wright and I labeled and catalogued, and then, in conjunction with David McCadden who had been appointed taxidermist at the Academy, we began the dismounting of a large part of the immense exhibition collection of birds which was displayed in the museum, a task which was carried to completion many years later with the assistance of other students of the Jessup Fund—Pennell, Fowler, Lorriliere, Rehn, Culver, etc., all of whom also became members of the Club.

We were both engaged at this time too in forming private collections of birds and every morning during the spring we brought in choice specimens from Germantown and Conshohocken respectively to be compared, commented upon and skinned at lunch time. We also took collecting trips together to the Jersey Pine Barrens for Pine and Prairie Warblers and down the Delaware for winter hawks and rare migrants. Wright formed an ornithological partnership with a boy friend of Conshohocken, Frederic L. Clark son of Charles Heber Clark, the well-known author. They spent part of every summer camping on the upper Perkiomen, in a wild and picturesque spot, on the same stream whose lower waters were explored by Audubon from his home at Mill Grove, some miles below. The results of these campings furnished material for several communications to the Club, at the meetings of which Wright was for years one of the most regular attendants. He also made a valuable study of the Grasshopper Sparrow which appeared in CASSINIA for 1901 and which added largely to our knowledge of the bird in our region, especially as regards its migration.

Wright's interests were not wholly ornithological. He was fond of reading and appreciated the best in literature and the drama. He was always attracted by outdoor sports of all kinds, played football and baseball, was an adept with the tennis raquet, winning several local championships and was a skilful

bowler. Of slender build and a constitution not over-strong, his success in these strenuous games was remarkable.

Deciding that science did not offer him the opportunities that he felt he must have, Wright left the Academy in 1893 and entered a draughting office, but soon after became connected with the J. Elwood Lee Chemical Company which had just established itself at his home town, Conshohocken, and here he remained until shortly before his death. Devotion to his business was now his main thought and it received the best that was in him. For a time he represented the firm in New York City with exceptional ability, and during the Spanish War succeeded in obtaining large contracts for hospital supplies. Later he was recalled to Conshohocken as Assistant Secretary. Early realizing the future of the automobile, he paid especial attention to the manufacture of rubber tires and was active in the organization in 1911 of the Lee Tire and Rubber Company, an outgrowth of the rubber department of the parent concern, and for five years was its Secretary. Early in 1916 he severed his connection with this company and removed to Yonkers, N. Y., becoming associated with the Philadelphia Rubber Work Company and manager and treasurer of the Acushnet Process Company with offices in Brooklyn and New York.

Wright's constant application to business had its effect on a none too strong constitution and several times he was forced to pause and seek recreation in the outdoor life that he loved so well—in the mountains of North Carolina and in the Adirondack wilderness. In the latter region he later acquired a tract of land which was his great delight and upon which he planned to spend much time later on in ornithological pursuits. But these hopes were never to be realized. A sudden attack of pneumonia proved too great a strain upon his constitution and he passed away on January 18, 1917.

Wright had been married in 1910 to Miss Louise Weston, and she with two small daughters as well as his parents and three sisters survive him.

As a student of birds Samuel Wright was far above the average. He was retiring and seldom displayed the thorough knowledge that he possessed ; but his perception was remarkably

keen and his mind quick to grasp a fact and store it away for future use—qualities that counted quite as heavily in his business successes as in his scientific activities. His ornithological specimens were to him far more than mere specimens. He had studied each one until he knew all that it represented and ever afterward it recalled to his mind many facts that would be lost to others.

In the spring of 1915 accompanied by Mrs. Wright he joined the American Ornitholgists' Union party which crossed the continent to attend the San Francisco meeting, and his enjoyment of the trip, with its new associations and new birds, was intense. Again and again on the excursions that were taken *en route*, I was struck anew with his keenness of observation and the unexpected knowledge that he had acquired of western bird life. He had always been a devoted member of the A. O. U., becoming an Associate as early as 1895 and attending every meeting that he possibly could, including the last one in Philadelphia where he met again several of the western ornithologists whose acquaintance he had made on the San Francisco trip.

As a man and a friend Wright was all that these words should imply. Cheerful under all circumstances, generous and unassuming, everyone was drawn to him and many were his debtors for more than one act of kindness or charity. He was typical of the best of the material that has gone to make the Delaware Valley Club what it is.

Love of nature it seems to me must have no small part in forming such characters as his, and the influence of such men is of the best. They are bound to lead in activities to which they devote themselves and by their council and example many another is guided to the paths along which they have passed.

Summer Birds of Pocono.

BY JOHN D. CARTER.

THE following paper is intended to give an outline of our information regarding the summer birds of the Pocono district, Monroe Co., Penna., and includes some observations which have been published previously. Such a paper, of course, cannot be made exhaustive without growing into a volume and becoming exhausting. Many of the commoner species, whose habits are well known, are passed with very brief reference.

In every case where comprehensive statements are made, the reader should mentally add the reservation, "So far as the writer is aware."

It is freely admitted that our knowledge is very far from complete. Observations have nearly all been made during brief vacation trips. These have mostly fallen during June, July and August, with one in May. Nests of species which breed early have therefore been found seldom or not at all. This applies among others to the Chickadee and most of the hawks and owls. Large tracts have not been visited at all and only a few spots have been subjected to intensive search, so it is quite to be expected that other species will be found as local or occasional summer residents. Furthermore, most of our attention has been given to the rarer species, or those not found in more accessible parts of the Delaware watershed. The district therefore still awaits the microscopic examination of the ornithological gentlemen of leisure.

For convenience of reference, the birds in this list are arranged nearly according to standard practice. The Wood Duck is the only one of its family recorded from the Pocono district as a summer resident. No nests have been found and no broods of young have been discovered, so its breeding there remains conjectural.

Of the Herons, the Little Green, Great Blue and Night Heron are regular summer residents. I do not know that the nests of any of these have been reported. In 1916, three Egrets (*Herodias egretta*) spent several weeks at Pocono Lake. In 1917 one of the same species enlivened the landscape for a few days. No doubt these were stragglers from further south.

The Woodcock is a regular though not an abundant summer resident. It is not often seen except as it rises from the ground before one's feet and speeds away on whistling wings.

The Solitary Sandpiper is suspected of nesting occasionally and the Killdeer perhaps may do the same.

The Spotted Sandpiper scales close above the surface of the lakes, goes tipping along the shores and walks the half-submerged logs in search of food. Several years ago a nest was found on the shore of a lake between low and high water marks. Soon after its discovery, heavy rains set in, mingled at times with hail. The water level rose rapidly until the eggs were lifted from the nest. I took them from the cold water, wrapped them in a box, placed them in a coat pocket, and traveled for at least five hours. When the eggs were spread out at home, I was surprised to find that one of them contained a living chick which had pipped the shell and was striving to escape. Gentle artificial heat was applied, and by next morning I had as perfect a little Sandpiper as ever peeped.

There appear to be only one or two authentic records of the Bobwhite. It may therefore be classed as a mere straggler.

The Ruffed Grouse breeds abundantly, as is shown by the numerous broods of half-grown young which are found during the summer. A few nests have been discovered. One of them contained eggs as late as May 20. The brown, pointed eggs are laid in a depression in the leaves, usually beside a stump, log, or other protecting object. The sight of the anxious mother trailing over the ground in the effort to lead away from her precious brood, is one of the most pleasing which comes to the roamer of the woods.

The Ring-necked Pheasant has been reported a very few times. Doubtless the birds were stragglers from some locality where they had been introduced.

The Turtle Dove is met with occasionally, flying rapidly over some open space or alighted on the ground searching for food. Familiar as we are with finding their nests in lowland apple-orchards, it is something of a shock to discover one hidden away in the forest, apparently miles from any cultivated land. The fact that the sitting bird will leave the nest and tumble about over the ground, suggests that this species at one time may have nested on the ground regularly, as it is well known to do occasionally.

The nesting of the hawks and owls is largely a matter of inference. The Screech, Barred and Great Horned Owls have been heard or seen. None of them appear to be numerous.

The Osprey is occasionally seen, and the Bald Eagle much more frequently, throughout the summer. The Turkey Vulture has been noted a few times. No nesting sites of any of these have been reported.

The Cooper's and Sharp-shinned Hawks are occasionally met with. One nest of the former and a family of the young of the latter have been reported. George Forsythe informs us that a Sharp-shin attacked and killed a Ruffed Grouse in his presence. Next day the same hawk captured a Ring-necked Pheasant. On the third day, returning to repeat its performances, its distructive career was closed by human intervention. In both the foregoing cases, the fatal injuries were inflicted upon the necks or heads of the victims.

The Broad-winged Hawk is sometimes seen circling above the forests, and more frequently its thin, shrill whistle indicates its presence.

The Red-shouldered Hawk is much more in evidence than any of the others. Its repeated mournful cry is often heard in the forests. Less frequently it may be seen perched on some point of vantage, passing from tree to tree in the clearings, or making beautiful circles above the lakes.

The Marsh Hawk is rather local, since most of the district is not adapted to its needs. In the meadows of Long Pond, however, it nests occasionally if not regularly. A visit to a nest found by the writer last summer may be worthy of description.

The year before, I had seen a pair of these birds flying at a

great elevation. The male was diving at the female. After a number of passes, she took a direct course for the great meadows which border the narrow pond. The male appeared to be satisfied with this, and at once ceased his coercive tactics. Using this incident as a clue, I went directly to the meadows, noting one of the hawks drifting about in their aimless way. Part of the surface had been burned over within a few months. Passing this I came to a wide expanse, thickly covered with grasses or sedges, high and low bush huckleberries and dwarf laurel.

Almost at once, the slaty blue male, balanced on his upturned wings, began to utter an alarm cry,—a cack, cack, cack, cack, repeated at frequent intervals. This seemed suspicious, for usually the Marsh Hawk is silent. Soon the female arrived from somewhere, and joined the male in maledictions upon the really harmless intruder. Her voice was more of a scream, although the syllables were similar to the male's. I do not know whether this is a constant difference or whether it may have been due to temporary excess of feminine indignation. Without delay, she began to charge. Starting about a hundred yards away, she flew straight at my face, turning up and passing over when about ten feet distant. I could plainly see the ring of feathers on her face, the yellow color of her eyes, and the yellow feet, with black claws, laid back below the tail.

Moving slowly in the direction from which she always came, I finally saw a mouldy-looking bunch of something, on the ground, and nearly hidden by the bushes. It took me a moment to realize the truth. That bunch was one of the young, covered with whitish down, through which the black and brown feathers were protruding in spots. Nearby on the ground were two others of the family, while the fourth rested on the nest. This was a grassy mound, much flattened, and nearly level on top.

The young all held motionless poses of defiance, mouths open and lead-colored eyes intently fixed. When one of them was vexed beyond endurance, it raised its wings, rose on its long legs, and doubtless did its best to convince me that I was in mortal danger of annihilation. During the half hour of my stay, the screaming mother did not cease to cut the air above my head.

The Yellow-billed Cuckoo occurs only sparingly in the Pocono district. The Black-billed is much more numerous, and is more frequently heard than seen. Unless it flies across an open space, its slender form is hard to discover in the wealth of foliage. Singing at night is a well-marked habit of this species.

The Belted Kingfisher plies his trade up and down the streams and about the lakes in a manner too well known to merit description.

Of the woodpeckers, the Flicker is much the most abundant, nesting in the usual manner. The Downy is not very numerous : the Hairy rather more so. The work of the Pileated has been seen several times, though the bird itself has not been noted nearer than the forests of Pike County.

The Yellow-bellied Sapsucker is the most interesting of the family. Its curious, whining cry may be heard occasionally in the woods and clearings. The nest-cavity is dug in dead stubs, often in those which are standing in water. It may be at any level from ten to sixty feet or more. Sometimes the hole is made in stubs which are so rotten that excavation is very simple and easy when once the hard exterior shell has been pierced. The opening sometimes has the shape of a rounded square. In other cases it appears as truly circular as the doorways of Downy and Hairy.

Close to one nest containing young, it was noted that the birds had attacked a living sweet-birch tree. Instead of the circular rows of small round holes, so often seen upon apple-trees, they had made much more serious injuries. Square-cornered holes as large as the end of one's finger, were dug side by side over considerable areas, extending right around the trunk. From these holes the aromatic juice was exuding. Attracted by this, Hummingbirds, butterflies, and certain insects not distinguishable, at a distance, from houseflies, were moving about. The value of this arrangement to the woodpeckers was evident when the parent bird was seen to alight on the spot and fill her beak with insects. Dropping down a few yards she transferred them to the young. Surely this was a labor-saving scheme of high merit. How few young birds are raised on flies flavored with wintergreen !

Other cases have been noted where similar restaurants were placed conveniently near the nest-cavity. If more extended observation shows this to be a constant feature of the nesting habits of the Sapsucker, it should receive more credit than it has, either for intelligence or else for exceptional good luck.

The Whip-poor-will probably holds the record as the bird best known by voice while least known by sight. No one who spends a few evenings out of doors during the proper season can fail to notice the loud emphatic call, repeated so many times in quick succession that the listener wonders why the bird does not succumb for want of breath. "Sad and shrill" may describe the notes for some people, but for me they are more suggestive of good times among the mountains than any other sound.

The bird itself may be seen sometimes as a lump in the wagon-road, in the dim light not distinguishable from a stone; until it suddenly and noiselessly vanishes away. Occasionally a Whip-poor-will rises from before one's feet in the day-time, is in sight for an instant, and then is lost among the trees. Under similar circumstances the Woodcock makes nearly the same appearence, but may be distinguished by the shrill whistling of its wings.

The chance to make the Whip-poor-will's acquaintance comes when its home is found. The two eggs are laid in the leaves which form the floor of the forest, apparently any spot which is sufficiently level will answer. The eggs are so light-colored that they are quite conspicious. They rest about an inch apart so that the body of the brooding bird comes between them. During at least part of the time, one egg is held under each wing. The parent bird is not very shy at the nest, apparently relying on her protective coloring.

The Nighthawk is found, during the nesting season, in the more open sections where the eggs are placed on the bare ground. I have also noticed the birds diving and booming in one of the tracts where many old stubs stick up from quiet water. If the nest were near by, the top of a stump would seem to be the only place for it. Later in the summer they become more numerous, moving about in silent, straggling flocks.

The Chimney Swift is a bird which has been able to change its habits to utilize the improvements provided by civilization. The chimney now takes the place of the hollow tree as a nesting site. In the Pocono district there are not enough chimneys to meet the demand, so some of the Swifts resort to the barns. There the nests are attached to the boards forming the sides of the hay-mows, of course inside the building. The nests appear to be of the same construction as those built in chimneys.

The Hummingbird occurs rather sparingly at Pocono. So far as observed its habits are the ordinary ones, except as previously noted in the account of the Sapsucker.

The flycatchers of the Pocono district are unusually interesting, including all of the species that are normally found in eastern North America, except the Acadian Flycatcher.

The Phoebe is the same prosaic individual as always, found about bridges and near buildings. The Wood Pewee is not numerous.

The Great Crested Flycatcher may usually be found in or near the stumpy, wet regions, so much appreciated by the grackles (see below).

The Kingbird frequents the same localities and places its nest on the old stubs protruding from the water. The nests which I have seen have all been open to the sky. Sometimes they are within a few feet of the water. It is a question how they manage to conduct housekeeping in the midst of a colony of grackles. It is too hard to imagine the grackles observing any gentlemen's agreement not to eat eggs. They must realize that to come too near means the descent of a shrieking fury upon their backs. However that may be, I have never noticed any attempt on their part to molest the homes of the Kingbirds.

The Olive-sided Flycatcher occurs sparingly in suitable localities, but does not appear to be present every year. I have seen it to best advantage in a great clearing where a few tall dead trees are still standing. From the topmost point of one of these it sallies out for the passing insect, which it secures with a snap. At frequent intervals its splendid voice rings out: "Look, right

here!" The first note is rather weak, the last one is somewhat prolonged. It is thought that this call can be heard for a good half-mile. Another note resembles "Quip, quip." Careful search has not yet revealed the nest.

The Alder Flycatcher was one of the surprises when I first visited Pocono Lake. Although a meek and humble member of the avian community it has taken a large part of the time of the bird-hunters. It is by no means uncommon along bushy lake-shores and water-courses. It keeps pretty well out of sight for the most part, but sometimes mounts an exposed perch after the usual manner of flycatchers. Its notes are a "prep," and an unmusical production suggesting: "Squē squē êrp." This is in the same class with the notes of the Acadian and Least Flycatchers, but is less abrupt than either.

The search for the nest was continued unsuccessfully for so many seasons that we were tempted to think that the Alder Flycatcher never had any nest at all, but carried its eggs about under its wings. Finally a little bunch of stuff was found, hidden away in a leafy bush about a foot from the ground. No birds appeared to have any interest in it, but it grew from day to day. At last, by watching it soon after sunrise, the Flycatcher was seen to claim it as her own. This nest met with disaster in some unknown way, after egg-laying had begun. Another was found nearby, several days later. This was probably a second attempt by the same pair of birds. A third nest was found in 1916. This one was not well hidden, being placed in an open spirea bush about four feet above the ground, over shallow water in a birch thicket. The nests were rather roughly built of dry grasses. The eggs resembled those of the Acadian Flycatcher.

The Least Flycatcher inhabits the more open, cultivated districts. It has received much less attention than its two near cousins.

Hidden away from ordinary observation by rhododendron thicket and a swamp, there are two small tracts which have yielded rich returns. There many of the spruces are rather small, but thick-leaved and dense. Nearby are well-grown forests of spruce and white pine. The ground is covered with

deep, wet sphagnum, growing in mounds. The presence of the wild cranberry and *Linnea borealis* shows it to be in effect a cool northern bog. The sweet piping of the Chickadee, the slender little song of the Kinglet, the trill of the Nashville Warbler and the ringing song of the Olive-backed Thrush, are among the characteristic sounds.

Almost lost among the many louder voices, one may occasionally detect a weak double note and a little whistle, much like one of the Wood Pewee's notes, but shorter. It is made of two barely separable syllables, the second being the higher in pitch. It may be a good hour's work to trace these sounds to their source. In some dark recess among the spruces, on a low perch, you may detect a bright-eyed and dull-colored little fellow, with all the earmarks of a flycatcher. And so he is,—the Yellow-bellied. His nest is hidden in the steep side of one of the mounds of sphagnum, among the leaves of goldthread and cornel. The White-throated Sparrow and Junco use the same type of site occasionally. The Nashville Warbler is strongly suspected of doing the same thing. However, a number of nests undoubtedly belonging to the Flycatcher have been found. The eggs resemble those of its near relatives, the Alder and Acadian, and are quite unlike those of sparrow, junco or warbler.

The Prairie Horned Lark probably nests in some part of the district each year. During some seasons I have failed to note it at all. It frequents only the open and cultivated places.

In the woodlands, the miscellaneous calls of the Blue Jay are among the common sounds. The birds are so numerous that it seems surprising that any of the small species can succeed in raising their families, especially since the Jays doubtless have the able assistance of the Crows in their work of housebreaking. The most favored nesting-site appears to be in a small spruce tree. The nests are usually empty before the arrival of the summer ornithologist.

Nothing is recorded of the Crows of Pocono which entitles them to more than passing mention.

Wm. L. Baily reports the Cowbird as occasional at Pocono Manor. I have not met with it in other parts of the district nor

have I seen any of its eggs in the many nests of warblers, vireos and sparrows which have been examined.

Only a comparatively few spots on the plateau are well suited to the needs of the Red-winged Blackbirds. In these few spots they are found in rather small numbers. They nest in tussocks of grass or sedge, possibly also in some of the thinly-clad mowing-fields. Their habits, so far as observed, are in no way remarkable. At Long Pond and one other locality, I have heard them utter a note so different from any which I ever heard elsewhere, that at first I could make no guess as to its source. Is this an indication of a difference which might be magnified into the basis for a geographical race?

The Meadow Lark is found only in the cultivated sections, where its habits appear entirely normal.

The Orchard Oriole occurs so rarely that it probably should be in the class of stragglers.

The Baltimore Oriole is more numerous, sometimes straying into the heavy woods, where it seems strangely out of place.

The Grackles of the Pocono region are said, by those who have taken specimens, to be of the unmixed purple form. Their habits, however, are appreciably different, from those of their lowland brethren. Avoiding the wide-spread forest entirely, and the cultivated lands less completely, they congregate for nesting purposes at the various lakes which dot the surface of the plateau. A clear, open sheet of water is not especially attractive to them, but where dead stubs rise from the water and half-rotted logs and stumps strew the surface, they assemble into veritable colonies.

Their nests are placed in cavities in the dead stubs. Only one nest among the fifty or more which have come under my observation was placed in any other position. This one was in a small birch which was growing from the top of a dead stub, entirely surrounded by water and rising about four feet above it. This nest was of heavier construction than those placed in cavities. Holes made by flickers are quite acceptable, as well as those formed by decay and weathering. Holes at any level are used, from the highest productions of the diligent flickers, to those just clear of the water.

When foraging for their nestlings, the old birds devote most of their attention to the half-submerged logs and stumps. Here they seem to find what they desire close to the water's edge. Examination of these places reveals numbers of the larval shells of dragon fly and stone fly. In addition to fruits, which doubtless form part of the provender, it seems likely that these larvae furnish much of the food for the hungry broods.

One of the most attractive songs at Pocono is that of the Purple Finch. The birds are numerous and the males give their sweet and powerful warble at frequent intervals, either from some prominent perch or while on the wing. The nests are placed in spruce trees, either on horizontal branches, or in the very tops of the trees, where they may be absolutely invisible from the ground.

Wm. L. Baily reports a few English Sparrows at Pocono Manor. I have not seen them at Pocono Lake.

The American Crossbill maintains its reputation for erratic behavior. During one or two summers, several years ago, it was fairly numerous. Since then I have not seen it. The undulating flight, accompanied by a chirping or clicking call, and the practice of hanging nearly upside down, assist in identification. They tear to pieces the cones of the spruce when these are so green and tough that it surely seems like working for a living.

The Goldfinch is found in the cultivated and more open sections, avoiding the heavy woodland. The same may be said of the Vesper Sparrow, although of course the latter is a ground bird, frequenting the fields and pastures.

The Savannah Sparrow is found in a few spots, notably at Long Pond. Here, its rather weak but not unpleasing song may be heard in the fields and the adjoining bushy pastures.

The Grasshopper and Henslow's Sparrows may be found occasionally in the Pocono region. Conspicuous alike both in song and appearance, the White-throated Sparrow is easily the most notable of its tribe. The sweetly plaintive 'peabody' song and sharp alarm chirp are common sounds in suitable localities. These are the bushy clearings, rather than the cultivated land or dense forest. The nest is placed on the ground,

at the root of a small tree, or partly sheltered by a log or bunch of brush. Less frequently it is placed on a mound of sphagnum in a damper locality. The eggs are sometimes clearly spotted on a greenish-white ground, but are usually clouded with diffuse brown blotches.

The familiar Chipping Sparrow frequents the cultivated regions and open park-like tracts. The nest is frequently placed on the horizontal boughs of the red spruce.

Sharing the clearings with its larger White-throated cousin, the Field Sparrow plays its humble part, placing its nest on the ground, among dry ferns or other shelter.

The Junco is more generally distributed over the plateau than most of the birds. One may catch the flash of its white tail feathers and hear its simple song almost anywhere. The nest may be placed on level ground, under the cover of huckleberry bushes or other growth, in the side of one of the numerous earthy mounds, tucked under a mossy log or the edge of a bank, or sunk in sphagnum after the manner of the Yellow-bellied Flycather. One very unusual nest was found last summer, among the horizontal branches of a spruce tree eighteen feet above the ground. This nest did not prove to be a success. It was so disarranged, probably by the swaying of the branches, that the birds deserted it before the set of eggs was complete.

The Song Sparrow is the same familiar, lovable bird that it is everywhere, found chiefly in the open sections and along the lakes and streams. The nest is usually on the ground, sometimes hidden in moss. Some have been noted which were placed in tussocks, after the custom of the Swamp Sparrow. One was found built against the trunk of a spruce tree, and supported by small dead branches.

The Swamp Sparrow inhabits the same infrequent marshes as the Red-winged Blackbirds, placing its nest in grassy tussocks. The song is of the same type as the Junco's, but distinguishable by a difference in the tone of voice.

Perhaps the most numerous bird on the plateau is the Chewink. In the great tracts of scrubby oaks he is most prominent, calling "che-wee" to the passerby, or repeating his loud "Leap year, see-e-e-e" from some prominent perch. The nest

is usually placed on the ground, partly concealed by brush or brushy growth.

The Indigo-bird occurs rather sparingly in the more open sections.

The sweet, leisurely warble of the Rose-breasted Grosbeak may often be heard coming from well-grown deciduous trees or from lower growth, but not often from the grooves of pines or spruces. Almost the same may be said of the rougher, more halting song of the Scarlet Tanager. Although so strikingly colored, neither of these birds is at all conspicuous on account of their keeping so well hidden among the leaves.

Although I do not know of any nesting colonies of Purple Martins nearer than Portland and Stroudsburg, the birds are frequently seen flying about over the plateau.

Following their temporary sojourn in southeastern Pennsylvania, about thirty years ago, the Cliff Swallows appear to have definitely settled upon Pocono as one of their summer homes. They go squeaking about, especially over the lakes, and make their curious mud nests in rows under the eaves of barns. A colony of thirty nests was counted last summer.

The Barn and Rough-winged Swallows are met with regularly. Nothing unusual regarding their habits has been recorded.

The Bank Swallow is of doubtful status. I know of no nesting colonies in the district.

The Tree Swallows resort especially to the stumpy parts of the lakes, described in the account of the grackles. The nests are placed in holes in the stubs, at any distance above the water. One may often look into them from a boat. A lining of feathers is a normal part of the household furniture. The birds visit their nests freely while the observer is only a few feet away.

Moving about from tree to tree with their weak, beady calls, or perched on the tops of the spruces with crests erect, the Cedar Waxwings are as much in evidence as such quiet-colored and gentle-mannered birds well could be. The rather bulky nests are placed preferably in the pitch pines, on horizontal branches, often over a wagon-road. They are sometimes difficult to distinguish from chance aggregations of pine-needles.

Of the Vireos, the White-eyed has been noted once in early

summer, and the Red-eyed is numerous and voluble as usual. The most attractive of the family is the Blue-headed or Solitary. Its sweet song, in form like the Yellow-throated but in a voice of its own, may be heard almost anywhere in mixed or hardwood forest. The nest is suspended below the fork of a small branch a few feet from the ground. Hemlock and spruce trees appear to be preferred.

The Warblers of Pocono have received perhaps more than their share of attention. Fourteen or more species nest there, affording an attractive field for study.

The Black and White Warbler is fairly numerous, revealing its presence among the trees by its song which differs from that of most of the warblers, in that the notes are so nearly all alike. A variation is given occasionally, however, which makes one think a moment before naming the author. The tone is thin and shrill. The nest is placed on the ground, often concealed under a stick or other protection.

The Golden-winged Warbler has been reported a few times, and the Brewster's once during migration. Their status as breeders is not known.

The Nashville Warbler is one of the surprises of the region. Almost as numerous as on the slopes of the White Mountains, one meets with a singing male every mile or so in suitable country. Were it not for the song, the bird might remain undetected indefinitely, for one harder to see is scarcely to be found outside of the rail family. The bird has no striking color marks, and keeps itself closely hidden among the leaves. When one does catch a glimpse of the little fellow, he is very likely to fly away for several hundred yards, so that the entire search must be begun again. The absence of black spots, the bluish color of the sides of the face and the yellow under parts, are the available field-marks. The spot on the crown is practically never visible. The song begins like that of the Black and White Warbler, suddenly changes in the middle and finishes in the tune of the Worm-eating Warbler or Chipping Sparrow. I have noticed no variation in several thousand renderings. Two or three nests have been found. The writer was not fortunate enough to see any of these, so can give no

description of them. I have searched for a great many hours and have attained only the measure of success implied in finding an empty nest, believed to belong to this species. The bird frequents clearings grown up with small white birches, and also wet, boggy places where the ground is strewn with logs and stumps, and covered with sphagnum. It is suspected that the nests are hidden in both types of localities, in the moss or under some concealing object.

The Parula Warbler is frequently heard singing one or other of its two buzzing songs, among the spruces. For some years there was much question as to where the nest might be placed, for there is but little hanging moss (Usnea) in the district, and this seldom grows long enough to accommodate a nest. The question was settled by Geo. H. Stuart, 3rd, who discovered a nest frailly made of dry grass stems, among the twigs pendant below the bough of a thick spruce. The tree stood in an open location, only a few yards from a wagon road where people and automobiles passed frequently.

The Yellow Warbler is found rather sparingly in the cultivated sections, seldom, if ever venturing into the thick woods.

In or near the dense rhododendron thickets, and less frequently in general woodland, one may hear the song of the Black-throated Blue Warbler,—a series of three or four buzzing "z-e-e-e-s." The nest is usually placed in a crotch of a rhododendron within a few feet of the ground, so hidden that it is not visible until the thick, green leaves are parted.

The Magnolia Warbler is probably the most numerous of its genus in the well-grown woods. The song is in two quite different forms, but in the same voice. A peculiar call-note is in two syllables, like "skee-zick." I know of no call made by any other warbler which at all resembles it. The nest is usually placed on horizontal boughs of a spruce, a few feet from the ground.

The Chestnut-sided Warbler is numerous in the tracts of scrubby oaks and second growth of other kinds. Both of its two standard songs are strikingly similar to those of the Yellow Warbler. The authorized versions are not always followed. The nest is a neatly-made cup, placed in the crotch of bush or sapling near the ground.

The brilliant Blackburnian Warbler is common among the well-grown spruces. The song is characterized by the exceptional thinness of the last few notes. Sometimes this feature is not very well marked. The nest is doubtless placed well up, in evergreens. I have not yet succeeded in finding one.

The drawling, though very attractive, notes of the Black-throated Green Warbler are frequently heard, coming from high up in large white pines. One form of the song may be indicated by the words "Trees, trees, wavering trees," the other by "Trees, trees, trees, tree, so shady." A nest, found last summer, was placed in the crotch of an ascending, dead branch of a large white pine, about twenty feet from the ground, and about the same distance from the trunk. There was no living foliage near it and none above, except the crown of the tree. This nest was found by noticing the female pulling at a string entangled in a tree. When the string was cut into suitable lengths the bird promptly carried them to the unfinished nest. The set of eggs was not complete until about July 4th.

The one or two records of the Pine Warbler leave the status of the bird uncertain.

The Ovenbird is numerous in well grown woodland. The nesting and other habits appear quite normal for the species. The writer has found several nests, some of them well concealed, others not so.

The Northern Water Thrush is found along the dashing streams and in the swamps where the current becomes lost among fallen trees and mossy stumps. The nest is well hidden under a root or overhanging bank. The large assemblage of dead leaves which often marks the nest of the Louisiana Water Thrush, does not seem to be a feature of the home of *noveboracensis*. The difficulty in distinguishing the two water thrushes, in spite of the field marks which are supposed to be useful, renders the status of *motacilla* doubtful.

The most notable variation in the habits of the Maryland Yellowthroat, is in the location of the nest. Bunches of grass are used occasionally, but a more usual site is in low-growing huckleberry bushes. The nest is frequently entirely hidden until

the twigs are parted. The birds often sit close, and hurry away as the nest-hunter's stick passes over the spot.

The Yellow-breasted Chat may sometimes be heard singing early in the season. Later it becomes silent or moves entirely away. In the absence of nesting records, its place in the breeding avifauna is not secure.

If all warblers warbled as well as the Canadian, their name would not be a misnomer. Its sweet, rapid song comes sparkling from the wet thickets with a vigor not common in the family. The nest is well concealed under a projecting bank or root, usually near water.

Although numerous in the valley at Stroudsburg, the Redstart is seldom seen on the Pocono Plateau during summer. This contributes considerably to the peace of mind of the bird-student; for in my judgment, of all the warbler notes, those of the Redstart are the hardest to keep straight. This difficulty is not lessened by the fact that the young males sing freely while still in the garb of the female.

The Catbird is numerous, nesting abundantly in small spruces or other thick places.

The Brown Thrasher is less common, being found in the cultivated and scrub-covered districts. One or two nests have been found, as flat on the ground as a chewink's.

The Carolina Wren has been recorded once and the Winter Wren a few times. The former is probably accidental, the latter irregular or local.

The House Wren is partly the civilized little fellow so familiar about our buildings and partly an inhabitant of the remote clearings and stumpy tracts where he shares the cavities with bluebirds, grackles and tree swallows.

Samuel N. Rhoads reports the Brown Creeper at Pocono Lake. In several seasons there, the writer has not met with it.

Of the two Nuthatches, the Red-breasted is rather more numerous than the White-breasted. The deliberate "ank, ank, ank, ank" of the former is a characteristic sound of the heavy forest. Both birds probably finish their nesting before the summer visitors arrive to observe them.

The Black-capped Chickadee is a loveable little bird, so ready

to answer to a call, and so bright and confiding at all times. His sweet whistle of two or three syllables seems to me one of the choicest sounds of the northern woods.

During the summer of 1917, two pairs of Acadian Chickadees were noted. The pair at Pocono Lake seemed very much interested in an old stump, as reported by J. Fletcher Street; although one of the birds was seen by the writer a little later, exhaustive search failed to reveal a nest. These birds were probably left-overs from the unusual southward incursions of the previous winter.

The search for the nest of the Golden-crowned Kinglet for a long time seemed almost hopeless. But there are always to be found those who are ready to spend hours in trying to penetrate the secret places of the impenetrable spruces, for the sake of the little hope that may remain. It was therefore with peculiar satisfaction that late in June, 1916, I happened to glance at the one right spot in many thousands. There in the twigs pendant from a spruce bough was a little bunch of moss. On climbing the tree and drawing the branch around, it was clear that the bunch was the beginning of a nest. By coming soon after sunrise the birds were found at work. When finished the nest was about as large as one's fist, lined with feathers, and with very thick walls. The set of eight eggs was complete about July 4th. The Kinglet's song does not seem to be well known even to those who should have heard it often. It is a thin-voiced, simple performance, five or six "te" notes rising in the scale, followed by a rapid, descending trill. The quality is somewhat like that of the the thinnest notes of the Blackburnian Warbler.

The Wood Thrush is so infrequent on the Pocono Plateau that it may almost be considered a straggler. Others of the family amply make up for its absence.

The Veery is abundant, frequenting general woodland, and more particularly, low swampy and boggy spots. The song seems always to suggest something spiral or whirling, and is composed of four or five notes, similar but not just alike, of a peculiar mixture of gentle rasping and metallic ringing. Most persons I think are disappointed when they first hear it. This feeling soon wears off and gives place to increasing fondness.

The Veery's nest is on the ground, not sunk in it as the Hermit's normally is, either in swampy places or on the drier woodland floor. The eggs are practically undistinguishable from those of the Hermit Thrush.

The Olive-backed Thrush is not generally distributed. In spots where the forest is not very tall, but rather open with a good growth of thick, young spruces, it may be heard, especially at evening, pouring out a penetrating though not very loud song. It seems to me a mistake to compare it with the song of the Hermit, lest it be thought that it is something like it. Entirely different both in voice and method of delivery, the two should be mentioned together only by way of contrast. The utterance is the same every time, in tone more like that of the Veery. The notes are six or seven in rapid sequence, slightly burred, but beautifully resonant. Ths birds are difficult to observe. The nest is placed in small spruces, close to the trunk, a few feet from the ground.

The Hermit Thrush is easily the most notable songster of the region. It is usual for those who attempt description of the song to exhaust their superlatives and still fail to make one who has never heard it, realize what it is. In method it is similar to the Wood Thrush's but the higher pitch gives it a quality of exaltation peculiarly its own. The bird frequently employs three variations which are given in order. At Pocono Lake the ground is broken by numberless mounds, caused by the uprooting of the forest by a tornado about a century ago. These mounds are favorite nesting sites of the Hermit Thrush. The nests are usually set into the side of the mound. Others are placed under huckleberries or almost anywhere in the woods.

The Robin is common, but its morning song is by no means the overwhelming chorus that it is in the lowlands. Some of the birds are found about the houses; others are wood birds, nesting in pines and other trees, remote from civilization.

The ever lovely Bluebird is found in the open places and clearings, where it nests in holes in stumps and dead trees. Some resort to the stumpy lakes where they mingle with grackles, kingbirds and tree swallows.

Having passed the summer birds of Pocono in review, it

must be evident to any one who has had sufficient patience to wade through the list, that they make up an unusually diversified avifauna. They include such southern forms as the Chat and Great Crested Flycatcher, with northern ones like the Sapsucker and the Yellow-bellied and Olive-sided Flycatchers, the Acadian Chickadee from "down east" and the Prairie Horned Lark from the west. However tiresome they may appear in description, such localities where faunas mix, are always interesting in actuality.

The Evening Grosbeak

BY SAMUEL SCOVILLE, JR.

THE Athenians marked special days with a white stone. Our calender-makers use red letters. There are better ways. Fringed gentian, rose-red and snow-white orchids, the song of a veery, the hidden treasure of a rare nest, wind-swept barrens, jade-green pools—there are many better markers for a day than a colored number. A bird from the north all dusky-gold and velvet-black and ivory-white will always mark for me the 29th of January, 1917.

It had been a hard month of wrangling days in superheated courts and brief-ridden nights. Through them all, however, there was the whisper of a little cabin in the heart of the pine-barrens and of two priceless days that fell between terms. At last the first of them dawned and by mid-morning I was following a path that zigzagged through thickets of scrub-oak to the cabin set in a grove of pitch-pines. Below me the crooked Rancocas wound its way back and forth like a brown snake. I slipped into some old clothes, and all the worry of the month fell off my shoulders and rolled down the bank and was drowned in the golden water. It was an absolutely silent winter day and as I walked for miles and miles through stretches of low green pines and past pools set in golden sphagnum moss with only the caw of a passing crow drifting down from the blue sky or the tiny notes of the Golden-crowned Kinglet to break the stillness, the silence seeped in bringing with it the comfort and peace of the wilderness. I walked all day following out a maze of paths that led to Annie's Bog, Indiola Bog, Sheep Pen's Hill and around in a great circle to Lower Mill. I saw nothing unusual among the birds that day except a broad-winged hawk. Juncos, Carolina Chickadees, Buzzards, Myrtle Warblers, Tree Sparrows, Downy and Hairy Woodpeck-

ers, Brown Creepers, Whitethroats and Song Sparrows made up my bird-list for the day. I walked until after sunset and as I came home through the twilight I heard the hoot of the Great Horned Owl. "Hoo, hoo-hoo, hoo, hoo," it sounded with the second note usually doubled. In my experience the Barred Owl almost invariably doubles the third note and drops on the last, while the Great Horned Owl doubles the second and keeps the same cadence all the way through. I reached the cabin by dark. Followed a wonderful exhibition of free-hand cooking and a long dreamy evening with a book before a roaring fire. Then I banked up the fire for the night, pulled my bed almost into the curved fire-place and slept as only he can who has been out in the open all day.

The next morning dawned cold and rainy, about as unpromising a day for locating birds as could well be found. I planned to tramp to Lower Mill and then around to Upper Mill and back through the woods, a circle of about ten miles. I found that in my greediness the night before I had eaten everything in the larder except a tin of corned-beef and six pickles, which I fell upon like a wolf. Anyone who has placed himself outside of a can of beef and six pickles is ready for great deeds and I started out feeling that in spite of the weather it was to be an eventful day. I saw no birds except a Brown Creeper until I reached the Lower Mill. Near the dam were a number of White-throated Sparrows and among them hopped a female chewink. Around a bend in the road I plodded through the rain. As I passed the mill suddenly from a small yellow locust tree by the roadside I heard a series of loud pips much like the note of the English Sparrow. I looked up and there was my great adventure.

The tree was fairly filled with a flock of large, plump birds. At first I though they were Cedarbirds but the moment I caught sight of their coloring I realized that I was in the presence of my first flock of Evening Grosbeaks, a bird which I had never seen before outside of a book. The birds sat motionless for some time in the rain and I had an opportunity to count them three times in succession and found that the flock consisted of seventy-four which, so far as I can discover, is the largest accurately numbered flock recorded. Less than a third of them were males in

full plumage. With their black heads, golden foreheads, thick greenish-white beaks, wings half black and half white, dusky-gold backs and breasts and forked, black tails, they impressed me as the most spectacular birds I had ever seen. Perhaps this was owing to the winter background of cold rain, brown fields and leafless trees and the rarity of the birds themselves. Still I think, however, that under any surroundings a male evening grosbeak would always attract attention. The place where I saw them was in the township of New Lisbon in Burlington County, New Jersey, about two miles from the New Lisbon station at a place called Lower Mill. The flock seemed to be restless rather than shy. I could approach within twenty feet of them but they never stayed in one place for any length of time. Besides the sparrow-like note, which first attracted my attention, they gave a sort of trilling chirp. Once they all started like a flock of Goldfinches or Grackles chirping and calling together, making a chirring chorus. When they flew they sometimes gave a call-note. The resemblance of the bird to a monstrous Goldfinch was very marked, just as the Pine Grosbeak looks like a huge Purple Finch and the Blue Grosbeak like an overgrown Indigo-bird. When I first saw them one of the birds had a pod of the yellow locust in its beak. On subsequent occasions I often found them in locust trees and would see on the ground pieces of freshly opened pods but I cannot say that I ever saw them actually eating one of the locust beans. Their favorite food at all the times I have observed them were the pits of the common wild black-cherries (*Prunus serotina*).

On February 11th I again went to New Lisbon and found the whole flock of Grosbeaks feeding, this time on the ground not far from a house at about half-past ten in the morning. I followed them for some time around a circle in the clearings among pitch-pine trees, about a hundred yards in diameter and found that they went from one wild-cherry tree to another. Afterwards my son Gurdon first discovered that the ground under these trees was covered with cherry-stones neatly split in half while the droppings of the birds showed that they had fed there for a considerable space of time.

I went back to my cabin and brought some of my family and

friends back to the Lower Mill in whose clearing the grosbeak had been feeding. This time they were farther down the road, as usual under a wild-cherry tree. The flock seemed much smaller, comprising not more than forty birds. This time I noted that they had three distinct notes, the usual call which is like the chirp of an English Sparrow, a chirring chorus when all sing together in a tree, and a single clear flight-note.

The next time I saw this flock was on February 17th when I again found them in the morning about eleven o'clock feeding on the ground near the usual place. This time there were not more than thirty in the flock. The miller told me that in the early morning they came into his front yard and even on his porch and that at first there were as many as one hundred in the flock. This is undoubtedly only an estimate on his part. He also reported that they fed on the crumbs which his children put out for them, another statement which I would be inclined to doubt as the evening grosbeak is essentially a nut-cracker. This same miller I afterwards found was shooting the males and selling them for one dollar each, which probably accounted for the steady decrease of the flock. He stated that although he had lived in and near New Lisbon all his life he had never before seen this bird. At this time I noted the slightly forked short tails of the birds and the strange effect which the yellow ring around the eye gives the bird when seen in profile, giving it a curious, spectacled appearance. The huge beak and the short tail also give the bird a clumsy appearance. From my study of this and other flocks they seem to be rather a stolid bird in their behavior. On this day one of my neighbors reported that he had seen a flock at Brown's Mills on January 10th. As this is only a few miles from New Lisbon I am inclined to believe that it was the same flock as mine, since I could never find my flock except in the morning and they seemed to have separate feeding places for the afternoon and morning. On that same day, February 17th, George H. Stuart, 3rd, saw a pair in the afternoon, a male and female, not far from the house at Lower Mill. On that date I also saw several places where the Grosbeaks had torn open the pods of the yellow locust.

On February 22nd I again visited New Lisbon with a number

of members of the Delaware Valley Ornithological Club. There had been a light fall of snow the night before which covered the ground under the wild-cherry trees and there was no sign of the flock of Grosbeaks in the morning. In the afternoon some of the members of the Club located and collected four female evening grosbeaks in the woods on the edge of the clearing on the opposite side to where I had always found the bird before. They were found in the top of a pitch-pine tree. An examination of the collected specimens showed the beak to be greenish-yellow when seen nearby although in the distance it has a white effect. Their crops were filled with the buds and embryo needles of the pitch-pine. The records of this bird show that it has been found feeding on the berries of the red-cedar, climbing bittersweet, apple and crab-apple seeds, elm and maple buds, box-elder seeds, and berries of flowering dogwood besides hemp and sunflower seeds. The iris of the eye was red and the legs and feet of a grayish-pink color. The plumage of the females showed mottled black-and-white wings and greenish-yellow back and breast.

The flight of the Evening Grosbeak is straight and swift. The miller told us that the flock had been in his dooryard the morning before but not the morning after the snowfall. My last sight of this New Lisbon flock was on March 11th at six-fifty a. m. They were in an apple tree back of the miller's barn and I located them by hearing their loud English Sparrow-like call. This time I also identified another note which seemed to me like the chirp of a Robin, only trilled. This is probably the note which they all make when they chir in chorus. When I came near them they all sat stolidly and silently in the tree for nearly ten minutes, evidently patiently waiting for me to go. Finally they began to fly one by one to the ground and soon began cracking and eating cherry pits from a cherry tree which stood next to the apple tree. I looked under several cherry trees that morning and under every one found the ground covered with cracked seeds, even under the leaves, showing that the birds had hunted out the pits from every tree. I counted fifteen in this flock although there were probably twenty, but owing to the constant moving about of

the birds I could not make an absolutely accurate count. I could see only two males. Finally the birds flew over into the woods and I followed after them. They lit on the ground and walked toward me until they were not over thirty feet away. Again I noted the uncanny spectacled look which the yellow line over the eye gives the bird. That spectacled appearance and the unnatural white beak would alone, outside of the brillant coloring of the males, make the Evening Grosbeak noticeable anywhere as a strange, unusual-looking bird. Again the flock impressed me not as shy but as wonderfully alert. While they were close to me on the ground I happened to move a single finger of my left hand suddenly. At once the whole flock took to flight and flew over to a tree-top by the side of the road near where I first saw them. As I had watched them for half an hour and was chilled to the bone by the cold rain, I went back to my cabin. My last sight of this New Lisbon flock was of the birds sitting in a tree-top near where I had first seen them in the same kind of a driving cold rain.

On Sunday morning March 25, I was coming back from Darby Creek near Haverford, in Delaware Co., Pennsylvania between nine and ten in the morning with my son Gurdon and a friend, Theodore Spencer. We had been out getting a bird-list and were coming back up along a little swale of trees through which a tiny brook runs not far from the intersection of Darby Road and Highland Avenue. As we were hurrying home I suddenly heard in the bushes in the middle of this swale, several loud pips and stopped the boys and told them that the notes sounded like those of the Evening Grosbeak. As we came nearer to the swale my boy Gurdon first caught sight of a male evening grosbeak on a branch of a low tree. They had been feeding on the ground under a cherry tree. There were six in the flock, four which I thought were females and two males. So far as I know these are the first Evening Grosbeaks to be reported from Delaware Co., Pa. The next morning, March 26, at seven-ten I reached this little run and heard them some distance away. I could only find four, one male and three females, on a tree. They were at the head of the swale near the road. They flew down to the ground and began feeding on cherry pits which I

could hear them cracking some distance away. They would take the pits well out of sight back into their beaks keeping their bills half open in a comical manner as if they had a bone in their throat. A second later there would be a cracking noise and out would drop two nicely split segments of the cherry pits, the stone having been swallowed. The male of this flock seemed much shyer than the females, perhaps having already been hunted for his plumage, and kept in the deep thickets. When I came quite near, they flew into a tree, the male and two females in one and another female in a separate tree. Suddenly they all flew away without giving any call. When on the ground they could easily be overlooked in the dense thickets.

On March 31, in the afternoon I walked all through this swale but found no sign of the Grosbeaks. On April 1, I found them again in this swale of trees at eight-ten A. M., this time much farther from the road than before. Each time I located them by their call of "pip, pip." They seem to almost invariably make this call when sitting together in trees. When feeding on the ground, however, they are absolutely silent, having no twittering or feeding notes.

On April 1st after I had located them they moved farther down the swale and I lost sight of them. Following down the run I finally saw them all feeding silently in a tree on the seeds of the poison ivy. They would sidle along the limbs of the tree exactly like a parrot does along its perch. From my personal observations they have fed on cherry-pits, locust-beans, pitch-pine pods and embryo needles and the berries of the poison ivy. A flock at Hammonton, New Jersey was also reported as feeding on the seeds of the box-elder.

On April 1st, after I had watched them feeding the birds perched in a perpendicular line, one above the other, in a tree, giving an unusual opportunity for comparing them. There were five. One was a male in full plumage, the brightest male that I have seen. My color-notes taken at the time describe his breast and back as a dark brownish-gold brightening to a canary-yellow on the side with a gold line over the eye. Four of the others were undoubtedly females, showing the curious mottled black-and-white wings characteristic of the females whereas in the males the wings are

half black and half white, the black and white being in solid colors. One of the birds seemed to be an immature male. I am aware that the authorities state that the male grosbeak passes into full plumage after its first molting with no transition stage. This bird, however, I observed very closely for a considerable length of time with a strong glass. The back was yellowish instead of being gray like the females, and the wings were of a dirty white color instead of being mottled black and white as with the three females. Once the flock separated and immediately began calling to each other from different parts of the swale. Usually however they kept together, although sometimes one female would perch in a tree some distance from the other four. While I was observing them I heard the alarm-note of the Cardinal Grosbeak and suddenly down the swale a fine specimen of the Cardinal appeared. By turning my head I was able to compare the grosbeak of the south with his brother of the north. The cardinal grosbeak seemed much more alert and fnller of nervous energy than his stolid relatives while his long tail and crest made him appear a much longer, lither, more graceful bird. I note that at Kalamazoo, Michigan, an observer once found the evening and the Rose-breasted Grosbeaks together.

On April 14th I visited the run again in the afternoon but found no grosbeaks. On April 15th I started to visit this little valley which my children had christened Grosbeak Run. As I came to the Haverford College station of the Philadelphia and Western Railroad I heard from the Lombardy poplars beside the tracks the familiar "pip, pip" of the evening grosbeak. With some difficulty I finally located the bird which was calling, a solitary female. Looking through the trees, I finally located three more : another female, the immature male which I have already described and the male in full plumage. It was undoubtedly the little flock from Grosbeak Run with one missing, for when I went over there later in the morning I could find no Grosbeaks. Against the light the head and neck of the male seemed to be a dark brown with gold shades through it. Both the male and female of the Grosbeaks seemed to give the same call and equally often. The immature male was gray where

the mature male was gold and the white stripe on his wing was a dusky white instead of the pure white of the mature male. Besides the call-note they gave the rippling little trill which I have already described.

This was my last sight of the Evening Grosbeaks. They were seen a couple of times after that by my children and one of my friends near the station and later that month two or three were reported near Bryn Mawr which I presume were a part of the same flock.

Some of the records as collected by me for the evening grosbeak in Pennsylvania and New Jersey for 1917 are as follows: Miss Wallace on November 30th at Norristown saw three females. They were also reported at Oaks, Pennsylvania not far from Perkiomen Creek, and on December 5th at Cinnaminson, New Jersey by Charles Evans; December 24th by D. W. Pumyea, Smithville, New Jersey and December 26th at Westville, New Jersey by Julian K. Potter. W. J. Serrill reported a male in full plumage near Mill Creek at Ardmore, Montgomery County, Pennsylvania in January but was unable to give the exact date. On January 10th Doctor Darlington reported a flock at Brown's Mills, New Jersey.

The history of the Evening Grosbeak illustrates how far-reaching a bit of inaccurate observation can be.

The first specimen of which there is any record was sent to the New York Lyceum from Sault Ste Marie near Lake Superior by H. R. Schoolcraft. It was labeled Paushkundamo meaning "berry-breaker" in the Chippewa dialect. In regard to this specimen Schoolcraft wrote as follows:

> Bird first appeared about Sault Ste Marie in Michigan Territory during the first week in April 1823. The individual under examination was shot on the 7th of April in the evening. An Indian boy was attracted into the woods by its peculiar and, to him, strange note. There were a few birds in company. They were seen for a short time about the place but none have since appeared. The species is said to be common about the head of Lake Superior at Fond du Lac.

The next record of the bird was made by one Major Delafield, an agent of the United States government for boundaries. In 1823 he was camping near the Savannah river, northwest from

Lake Superior. There he met a flock of Evening Grosbeaks. Here is his story:

> At twilight the bird, which I had before heard to cry in a singular strain and only at this hour, made its appearance close by my tent and a flock of about half a dozen perched on the bushes in my encampment. They approached so near and were so fearless that my canoe-men attempted to catch them, but in vain. I recognized this bird as similar to one in possession of Mr. Schoolcraft at the Sault Ste Marie. Its mournful cry about the hour of my encamping, which was at sunset, had before attracted my attention but I could never get sight of the bird but on this occasion. There is an extensive plain and swamp through which flows the Savannah river, covered with a thick growth of sapin trees. My inference was then, and is now, that this bird dwells in such dark retreats and leaves them at the approach of night.

This twilight reputation was fastened forever upon the defenseless bird when William Cooper in January, 1825 described the bird in the annals of the New York Lyceum (Volume I, page 220) as *Fringilla vespertina.*

Prince Lucian Bonaparte in Volume II of his American Ornithology took up the tale. He saw two males that had been shot early in the spring at Athabasca Lake near the Rocky Mountains in the collection of Mr. Leadbeater of London, both of which were males. Accordingly he wrote:

> Only at twilight they are heard to cry in a singular strain. The mournful sound uttered at such an unusual hour strikes the traveler's ear but the bird itself is seldom seen. . . . No difference of any consequence is observable between the sexes although it might be said that the female is a little less in size and rather duller in plumage.

In 1832 Nuttall in his "Manual of Ornithology," page 526, embroidered the original surmise:

> They appear to pass most of the day in the deep and lonely swamps. . . . From these they sally forth in small families to feed toward the approach of night and at this season in the dusk of twilight their strange and mournful notes are heard from the forests, while the sad and serenading minstrel himself remains concealed, though at other times they are so fearless or incautious as to suffer themselves to be seized almost by the hand.

On May 27, 1836 Townsend writing from the Columbia river corrects the mistakes of Delafield, Bonaparte and Nuttall and

gives a perfectly accurate account of the evening grosbeak, its habits and its song. He writes in part:

The accounts that have been published respecting them by the only two authors to whom I have access, Mr. Nuttall and Bonaparte, are in many respects incorrect. In the first place, it is stated that they are retiring and silent during the day and sing only on the approach of evening. Here they are remarkably noisy during the whole of the day from sunrise to sunset. They then retire quietly to their roosts in the snmmits of the tall pines and are not aroused until daylight streaks the east when they come forth to feed as before. . . . At other times, particularly about midday, the male sometimes selects a lofty pine branch and then attemps a song, but it is a miserable failure and he seems conscious of it, for he frequently pauses and looks discontented, then remains silent sometimes for some minutes and tries it again but with no better success. The note is a single warbling call, exceedingly like the early part of the robin's song but not so sweet and checked as though the performer were out of breath. The song, if it may be so called, is to me a most wearisome one. I am constantly listening to hear the stave contined and am as constantly disappointed. Another error of the books is this: they both state that the female is similar to the male in plumage. Now, this is entirely a mistake. She is so very different in color and markings that were it not for the size and color of the bill and its peculiar physiognomy one might be induced to suppose it another species. The specimens in possession of Mr. Leadbeater in London and from which Prince Bonaparte drew up his description must all have been males.

In spite of this correction Coues harks back to the birds' alleged twilight habits in his "Key to North American Birds" and has a passage on the Evening Grosbeak which is worth quoting as a specimen of the rhetoric in which a past generation of ornithologists dared to indulge.

A bird of distinguished appearance whose very name suggests the far-away land of the dipping sun and the tuneful romance which the wild bird throws around the close of day. Clothed in striking color-contrast of black, white and gold, he seems to represent the allegory of diurnal transmutation; for his sable pinions close around the brightness of his vesture, as night encompasses golden hues of sunset while the clear white space enfolded in these tints foretells the dawn of the morrow.

Finally Languille as late as 1884 wrote that the Evening Grosbeak is noted for its melodious evening song. Even yet both the English and the modern scientific names for the bird,

Hesperiphona vespertina vespertina perpetuates in three languages the myth that this grosbeak only sings at twilight.

Stuart E. White at Grand Rapids, Michigan in 1890 observed flocks of the Evening Grosbeaks all through May and writes this about their song :

> The song is a wandering, jerky warble beginning low, suddenly increasing in power and suddenly ceasing as though the singer were out of breath.

In closing, let me chronicle for the inspiration of all ardent oologists the fact that the first recorded nest was taken on May 10, 1886 by E. H. Fiske in Yolo County, California. At that time the incubation was so far advanced that it was impossible to preserve the eggs. They were reported to be like those of the Black-headed Grosbeak. Since the migration of these birds to the Eastern states seems to be steadily increasing and on April 17, 1911 at Ithaca, New York a female was seen breaking sticks, evidently in preparation for a nest, it is not at all impossible that the bird may yet be found nesting within collecting distance of the Delaware Valley Ornithological Club.

Report of the Spring Migration of 1917.

COMPILED BY WITMER STONE.

FORTY-SEVEN schedules were returned by D. V. O. C. Migration Corps for the year 1917 as may be seen from the appended list of observers. Additional recruits are particularly desired especially from stations within the ten-mile radius in order to keep this valuable piece of investigation fully up to the standard of past years. Names of competent observers may be sent to Dr. Witmer Stone, Academy of Natural Sciences, Logan Square, Philadelphia, and schedules and instructions will be forwarded at once.

We should again urge all observers to study more carefully the suggestions contained in the 1914 Report, a copy of which is enclosed with each blank schedule for 1918, in order that they may familiarize themselves with the normal time of arrival of the various species. An unusually early record always suggests a possible error in identification and should be accompanied by notes as to the circumstances of the observation and the methods employed to insure accuracy. Unless such circumstantial evidence accompanies the record it may be omitted from the printed list. The same conditions apply also to rare and unusual species.

New Jersey.

Cape May, H. W. Hand.
Atlantic City, Mrs. N. S. Cromie.
Vineland, Mrs. A. K. Prince.
Downstown, W. W. Fair.
Camden, J. K. Potter.
Audubon, J. W. Tatum.
Moorestown, Miss A. A. Mickle, S. S. Haines, M. A. Linton and Miss L. M. Jacob.
Moorestown, Mrs. V. Wierman.
Rancocas, Miss E. Haines.

Mt. Holly, N. D. W. Pumyea.
Beverly, D. G. Baird.
Beverly, J. F. Street.
Bordentown, Miss M. V. Flynn.

Pennsylvania.

Concordville, Miss E. P. and J. F. Styer.
Media, S. Omensetter.
Media, J. P. Moore.
Media, Miss L. G. Allen.
Media, Miss M. E. Yarnall.
Moylan, Miss J. H. Binney.
Swarthmore, Samuel C. Palmer.
Swarthmore, P. E. Howard.
Swarthmore, J. M. Ellis.
Ridley Park, R. L. Lloyd.
Lansdowne, J. D. Carter.
Lansdowne, W. E. Roberts.
Lansdowne, G. H. Hallett, Jr.
Chestnut Hill, W. H. Trotter.
Germantown, Stewardson Brown.
Frankford, R. F. Miller.
Mt. Airy, S. H. Barker.
Ardmore, W. L. Baily.
Haverford, W. J. Serrill.
Haverford, S. Scoville Jr.
Wayne, Mrs. M. V. Alexander.
Wayne, Miss. Mildred Cornelius.
Westtown, W. B. Evans, C. W. Palmer, etc.
West Chester, R. P. Sharples.
West Chester, I. G. Roberts.
West Chester, Mrs. S. C. DeHaven.
Newtown, Rev. A. Patman.
Doylestown, G. MacReynolds.
Forest Grove, Miss A. K. Bewley.
Buckingham, Miss E. C. Cox.
Collegeville, W. A. Kline.
Reading, E. L. Poole.
Perkasie, A. C. Rutter.
Lopez, Otto Behr.

The most striking feature of this year's migration was the visit of the Evening Grosbeaks and Hudsonian Chickadees, entirely new birds so far south. Equally unprecedented was the lateness of the May migrants. The March and April arrivals did not differ materially from normal, some being earlier and others later by from one to five days, but species normally arriving in bulk from May 4 to 12, were from seven to twelve days late. Upon examining the weather report for May we find a temperature of from 11 to 14 degrees below normal from May 4 to 8, remaining 7 degrees below normal until the 13th. This unquestionably affected the late migrants which had probably

reached our southern shores just in time to meet the cold spell which was accompanied at many points by rain, making migration impossible.

A sudden rise in temperature from May 18 to 20, witnessed a tremendous arrival of migrants while subsequent low temperture delayed the departure of the last stragglers well into June. Altogether it was a remarkable year and the greatest departure from normal dates of arrival in May migrants that we have seen in our seventeen years of continuous cooperative observation.

Name.	Rancocas, N. J. N. 4; E. 16.	Moorestown, N. J. N. 1; E. 12.	Camden, N. J. N. 0; E. 2.	Audubon, N. J. S. 4; E. 5.	Media, Pa. S. 2; W. 12.	Swarthmore, Pa. S. 3; W. 10.	Ridley Park, Pa. S. 5; W. 9.	Lansdowne, Pa. S. 1; W. 6.	Haverford and Ardmore, Pa. N. 4; W. 8.	Wayne, Pa. N. 6; W. 11.	Germantown, Phila. N. 6; W. 1.	Mt. Airy and Chestnut Hill, N. 8; W. 1.	Frankford, Phila. N. 5; E. 5.	Bulk Arrival 1917	
Canada Goose	. . .	Feb. 27	. . .	. . .	Mar. 10	Mar. 24	. . .	. . .	. . .	. . .	. . .	. . .	. . .		
Green Heron	May 3	Apr. 28	May 23	Apr. 29	Apr. 24	Apr. 23	May 26	. . .	Apr. 22	May 25	. . .	. . .	Apr. 21	Apr. 23	
Night Heron	. . .	Apr. 29	Res.	Apr. 29	Apr. 21	May 12	. . .	. . .	May 9	. . .	. . .	. . .	Apr. 14		
Spotted Sandpiper	May 12	Apr. 23	Apr. 21	Apr. 29	Apr. 27	Apr. 22	May 13	May 7	Apr. 22	May 12	. . .	. .	Apr. 28	Apr. 23	
Solitary Sandpiper	. . .	Apr. 28	May 3	Apr. 29	May 2	May 12	May 6	. . .	May 12	May 15	. . .	. . .	May 8	May 3	
Killdeer	Feb. 21	Mar. 12	Mar. 11	Apr. 1	. .	Mar. 3	Apr. 8	Mar. 24	Mar. 18	Feb. 27	. . .	Mar. 11	Feb. 24	Mar. 11	
Dove	. . .	Mar. 3	Mar. 21	Apr. 1	Mar. 20	Feb. 20	Apr. 1	. . .	Mar. 17	Mar. 10	. . .	Mar. 30	Mar. 26	Mar. 22	
Osprey	May 12	Apr. 15	. . .	Apr. 1	. . .	Mar. 29	. . .	. . .	Apr. 15	Apr. 15	. . .	. . .	Apr. 14		
Turkey Vulture	Res.	Res.	Mar. 22	Jan. 7	Mar. 18	Res.	Apr. 22	Feb. 16	Feb. 17	Apr. 27	. . .	Mar. 11			
Yellow-billed Cuckoo	May 30	May 2	May 27	May 20	May 20	May 19	. . .	May 24	May 20	. . .	. . .	. . .	May 21	May 19	
Black-billed Cuckoo	. .	May 13	. . .	. . .	. . .	May 12	. . .	. .	May 20	May 18	. . .	. . .			
Kingfisher	. . .	Mar. 25	Mar. 22	Apr. 1	Apr. 8	Mar. 25	Apr. 1	Apr. 17	Mar. 25	Mar. 31	. . .	Mar. 11	Mar. 24	Mar. 25	
Yellow-bellied Sapsucker	. . .	Mar. 18	Apr. 16	. . .	Apr. 5	Apr. 16	. . .	. . .	Apr. 12	. .	. . .	. . .	Apr. 29	Apr. 12	
Red-headed Woodpecker	. . .	May 20	May 23	May 17	May 22	May 3	. . .	. . .	May 4	. . .	. . .	May 20	May 10		
Flicker	Mar. 31	Mar. 25	Mar. 31	Mar. 27	Feb. 25	Feb. 20	Mar. 25	May 8	Mar. 11	Mar. 14	. . .	Mar. 4	Mar. 23	Mar. 18	
Whip-poor-will	Apr. 17	Apr. 21	. . .	. . .	Apr. 22	Apr. 29	. . .	Mar. 25	May 17	. . .	Apr. 21	. . .	. . .	Apr. 21	
Nighthawk	. . .	June 2	May 25	. . .	. . .	May 20	. . .	May 19	May 26	May 27	. . .	. . .	. . .	May 20	
Chimney Swift	Apr. 18	Apr. 20	Apr. 21	Apr. 21	Apr. 19	Apr. 19	Apr. 29	Apr. 19	Apr. 21	Apr. 20	Apr. 28	Apr. 22	Apr. 20	Apr. 21	
Hummingbird	May 19	May 15	May 26	. . .	May 18	May 27	. . .	. . .	May 16	May 20	May 20	May 6	. . .	May 19	
Kingbird	May 14	May 4	May 16	May 17	May 9	May 23	May 20	. .	May 11	May 22	. . .	. . .	May 12	May 16	
Crested Flycatcher	May 18	May 4	May 16	May 13	May 4	May 2	May 9	May 15	May 11	May 12	. . .	May 6	May 6	May 9	
Phoebe	. . .	Mar. 25	Apr. 1	Apr. 29	Mar. 22	Mar. 25	Apr. 1	Mar. 26	Mar. 25	Mar. 31	. . .	Mar. 31	Mar. 23	Mar. 25	

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Ardmore and Haverford, Pa.	Wayne, Pa.	Germantown Phila.	Mt. Airy and Chestnut Hill, Phila.	Frankford, Phila.	Bulk Arrival 1917
Wood Pewee	May 26	May 11	May 23	. . .	May 12	May 12	May 23	May 21	May 12	May 20	May 30	May 20	. . .	May 19
Acadian Flycatcher	. . .	May 22	. . .	May 13	. . .	May 20	. . .	May 27	May 5	May 24	May 21	May 20	. . .	May 20
Least Flycatcher	. . .	May 17	May 16	May 20	May 6	May 4	. . .	May 19	May 6	May 12	. . .	. . .	. . .	May 12
Bobolink	. . .	May 7	. . .	May 27	. . .	May 18	. . .	May 13	May 9	. . .	. . .	. . .	May 19	May 11
Cowbird	. . .	. .	. . .	. . .	Mar. 15	Mar. 16	Apr. 22	Apr. 14	Apr. 1	Mar. 31	. . .	May 20	Mar. 22	Mar. 31
Red-winged Blackbird	Feb. 25	Mar. 10	Mar. 11	Jan. 10	Mar. 16	Mar. 10	Apr. 22	Mar. 9	Mar. 11	Feb. 28	. . .	Mar. 11	Mar. 10	Mar. 10
Meadowlark	Res.	Res.	Res.	Feb. 25	Mar. 4	Feb. 27	Mar. 18	Mar. 8	Feb. 17	Feb. 27	. . .	. . .	Mar. 10	Mar. 8
Orchard Oriole	May 4	May 11	May 12	May 31	May 22	. . .	May 18	May 6	May 13	. . .	May 16	. . .	May 16	May 12
Baltimore Oriole	May 11	May 3	May 3	May 20	May 4	May 5	May 12	May 3	May 12	May 9	May 16	. . .	May 6	May 11
Rusty Blackbird	. . .	. . .	Mar. 18	Apr. 1	. . .	Apr. 11	. .	. . .	Mar. 31	. . .	. . .	. . .	Mar. 31	. . .
Purple Grackle	. . .	Feb. 24	Mar. 8	Mar. 16	Feb. 24	Feb. 20	Mar. 9	Feb. 20	Feb. 23	Feb. 25		Feb. 18	Feb. 23	Feb. 24
Vesper Sparrow	Apr. 28	Apr. 1	Apr. 8	Apr. 1	Apr. 5	Mar. 30	. . .	Apr. 1	Mar. 26	Mar. 14	. . .	. . .	Apr. 1	Apr. 1
Savannah Sparrow	. . .	. . .	Apr. 4	Apr. 1	. . .	May 19	. . .	. . .	Apr. 15	. . .	. . .	Apr. 1	Mar. 9	. . .
Grasshopper Sparrow	May 19	May 17	. .	May 20	May 17	May 13	. . .	. . .	Apr. 18	May 11	. . .	. . .	Apr. 20	May 11
Chipping Sparrow	Mar. 31	Mar. 31	Apr. 6	Apr. 1	Mar. 31	Apr. 1	Apr. 6	Mar. 31	Apr. 2	Apr. 1	. .	Apr. 1	Apr. 6	Apr 1
Field Sparrow	Mar. 31	Mar. 31	Res.	Jan. 15	Mar. 15	Feb. 24	Apr. 22	Mar. 30	Mar. 25	Mar. 10	. . .	Apr. 19	Mar. 10	Mar. 25
Swamp Sparrow	May 3	Apr. 29	Res.	Jan. 14	. . .	Apr. 14	Apr. 1	. . .	Apr. 22	Apr. 27	. . .	. . .	Apr. 21	. . .
Fox Sparrow	Mar. 7	Mar. 3	Mar. 4	. . .	Mar. 11	Feb. 20	. . .	May 11	Mar. 17	Mar. 1	. . .	Mar. 18	Mar. 3	Mar. 7
Chewink	May 3	Apr. 21	Apr. 21	Apr. 1	Apr. 4	Apr. 1	Apr. 22	Apr. 15	Apr. 21	Apr. 19	Apr. 19	Apr. 22	Apr. 21	Apr. 21
Rose-breasted Grosbeak	May 12	May 12	May 15	May 13	. . .	May 12	. . .	May 14	May 2	May 13	. . .	. . .	May 11	May 12
Indigobird	May 18	May 7	May 23	May 20	May 6	May 3	. . .	May 19	May 19	May 14	. . .	May 16	May 19	May 18
Scarlet Tanager	May 23	May 17	May 24	May 21	May 15	May 7	May 12	May 19	May 11	May 19	May 19	May 20	May 11	May 18
Purple Martin	. . .	Apr. 4	. . .	Apr. 29	May 11	. . .	. . .	. . .	. . .	. . .	. . .	. . .	Apr. 30	. . .

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Haverford and Ardmore, Pa.	Wayne, Pa.	Germantown, Phila.	Mt. Airy and Chestnut Hill Phila.	Frankford, Phila.	Bulk Arrival 1917
Cliff Swallow	. . .	May 6	. . .	May 13	. . .	. . .	. . .	. . .	May 26	. .	. . .	. . .	. . .	. . .
Barn Swallow	Apr.19	Apr.15	Apr.24	Apr.21	Apr.21	Apr.20	. . .	Apr.21	Apr.22	Apr.14	. . .	Apr.29	Apr.17	Apr.21
Tree Swallow	. . .	Apr.23	Apr.14	May 13	. . .	. . .	. . .	Mar.30	Apr.28	Apr.22	. . .	. . .	May 13	Apr.23
Bank Swallow	. . .	. . .	Apr.28	Apr.29	Apr.21	Apr.28	May 20	. . .	. . .	. . .	. . .	Apr.22	Apr.27	Apr.27
Rough-winged Swallow	. . .	. . .	Apr.25	Apr.21	. . .	Apr.21	. . .	. . .	Apr.22	. . .	. . .	. . .	Apr.18	Apr.22
Cedarbird	May 25	Mar.14	May 27	May 17		May 22	Jun. 4	Jun. 2	May 26	May 27	. . .	. . .	Apr.28	
Red-eyed Vireo	May 18	May 12	May 23	Apr.29	May 16	May 5	. . .	May 18	May 9	May 17	. . .	May 19	May 13	May 17
Warbling Vireo	May 9	May 2	. .	. .	. . .	May 6		May 3	May 14	Apr.27	May 31	May 16	. . .	May 3
Yellow-throated Vireo	May 16	May 10	May 16	May 27	. . .	May 12	. . .	May 16	May 15	. . .	. . .	Apr.18	May 19	May 16
Solitary Vireo	. . .	May 10	Apr.29	Apr.29	. . .	May 19	Apr.22	May 3	Apr.21	May 12	. . .	. . .	May 1	Apr.29
White-eyed Vireo	May 19	May 12	. . .	May 20	. . .	May 19	. . .	May 19	May 19	. . .	. . .	. . .	May 16	May 19
Black and White Warbler	Apr.27	Apr.28	Apr.30	Apr.29	Apr.22	Apr.21	May 6	May 2	Apr.29	Apr.27	Apr.19	Apr.22	Apr.22	Apr.29
Worm-eating Warbler	. . .	May 17	. . .	. . .	. . .	May 12	. . .	. . .	May 27	May 12	. . .	May 16	May 19	May 12
Blue-winged Warbler	. . .	May 11	May 14	. . .	May 1	May 18	. . .	May 12	May 15	May 17	. . .	May 19	May 16	May 16
Parula Warbler	May 12	May 7	May 13	May 20	. . .	May 14	. . .	May 14	May 11	May 9	May 5	May 16	May 19	May 13
Yellow Warbler	Apr.21	Apr.26	May 3	Apr.21	May 5	May 7	Apr.22	Apr.21	May 2	May 19	May 16	May 19	Apr.28	May 2
Black-throated Blue Warbler	May 12	May 12	May 13	May 13	May 11	May 12	May 13	May 4	May 6	May 12	May 16	May 16	May 13	May 12
Myrtle Warbler	May 3	Apr.25	Apr.19	Apr.21	Apr.20	Apr.21	Apr.22	Apr.22	Apr.21	Apr.25	. . .	Apr.22	Apr.19	Apr.22
Magnolia Warbler	May 15	May 12	May 14	Apr.29	May 8	May 12	. . .	May 15	May 11	May 17	May 16	May 6	May 16	May 14
Chestnut-sided Warbler	May 12	May 11	May 16	May 20	May 11	May 12	May 12	May 11	May 11	May 15	May 16	May 6	May 19	May 12
Black-poll Warbler	May 23	May 17	May 23	May 20	May 7	May 20	. . .	May 21	May 19	May 31	May 27	. . .	May 19	May 20
Blackburnian Warbler	. . .	May 4	May 23	May 20	. . .	May 19	May 13	May 19	May 19	May 15	. . .	. . .	May 19	May 19
Black-throated Green Warbler	May 19	May 10	May 11	May 13	May 13	May 4	May 12	May 3	May 6	May 12	. . .	May 13	May 13	May 11

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Haverford and Ardmore, Pa.	Wayne, Pa.	Germantown, Phila.	Mt. Airy and Chestnut Hill, Phila.	Frankford, Phila.	Bulk Arrival 1917
Pine Warbler	May 12	. . .	Apr. 17	Apr. 15	. . .	Apr. 30	. . .	. . .	Apr. 17	. . .	. . .	. . .	. . .	. . .
Yellow Palm Warbler	. . .	. . .	Apr. 12	Apr. 1	Apr. 6	Apr. 1	Apr. 22	Apr. 13	Apr. 7	Apr. 19	. . .	. . .	Apr. 15	Apr. 13
Prairie Warbler	. . .	May 15	. . .	May 26	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Ovenbird	May 12	May 1	Apr. 30	Apr. 29	Apr. 29	Apr. 30	Apr. 22	May 1	May 2	Apr. 23	Apr. 29	May 5	May 6	May 1
Water Thrush	May 12	May 17	May 11	May 20	Apr. 19	May 12	May 6	May 15	May 4	May 9	May 16	May 6	May 12	May 7
Kentucky Warbler	. . .	. . .	. . .	. . .	May 20	May 6	. . .	May 19	May 19	May 19	. .	May 20	. . .	May 19
Maryland Yellow-throat	May 12	Apr. 26	May 3	Apr. 21	Apr. 24	Apr. 21	. . .	May 1	May 3	May 9	May 19	May 18	Apr. 27	May 1
Chat	May 21	May 18	. . .	May 29	. . .	May 18	. . .	. . .	May 19	May 17	. . .	May 20	May 16	May 19
Canada Warbler	May 19	May 17	May 23	May 20	. . .	May 14	May 26	May 17	May 17	May 19	May 27	. . .	May 19	May 19
Redstart	May 5	May 11	May 9	May 6	May 11	May 12	May 26	May 4	May 11	May 13	May 12	May 5	May 5	May 11
Catbird	May 7	May 3	May 1	Apr. 21	May 3	Apr. 22	May 6	May 1	Apr. 26	Apr. 22	May 16	May 6	Apr. 27	May 2
Brown Thrasher	Apr. 28	Apr. 21	Apr. 21	Apr. 21	Apr. 4	Apr. 22	Apr. 22	Apr. 21	Apr. 18	Apr. 22	. . .	Apr. 22	Apr. 21	Apr. 21
House Wren	Apr. 23	Apr. 19	Apr. 20	Apr. 22	Apr. 18	Apr. 21	Apr. 22	Apr. 20	Apr. 22	Apr. 20	Apr. 23	Apr. 21	Apr. 22	Apr. 21
Long-bill'd Marsh Wren	. . .	. . .	May 22	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. .	. .	May 22	. . .
Ruby-crowned Kinglet	Apr. 19	Apr. 15	Apr. 12	Apr. 1	Mar. 29	Apr. 14	Apr. 17	Apr. 14	Apr. 12	Apr. 10	Apr. 19	Apr. 22	Apr. 19	Apr. 14
Wood Thrush	May 18	May 10	May 1	May 6	Apr. 30	Apr. 30	Apr. 29	Apr. 27	Apr. 27	May 9	May 17	May 5	May 2	Apr. 30
Wilson's Thrush	. . .	May 11	May 15	May 21	May 6	May 3	. . .	May 19	May 8	May 12	May 19	May 6	Apr. 27	May 11
Gray-cheeked Thrush	. . .	May 27	May 27	May 20	. . .	. . .	. . .	. . .	May 13	. . .	. . .	. . .	. . .	May 20
Olive-backed Thrush	. . .	May 11	May 13	May 21	May 22	May 19	. . .	May 24	May 13	. .	May 20	. . .	May 19	May 17
Hermit Thrush	. . .	Apr. 14	Apr. 2	Apr. 15	Apr. 12	Apr. 21	Apr. 8	Apr. 17	Apr. 1	Apr. 12	Apr. 1	Apr. 12	Apr. 16	Apr. 10
Robin	Feb. 21	Feb. 10	Mar. 4	Feb. 25	Feb. 3	Feb. 21	Feb. 27	Feb. 17	Feb. 23	Feb. 27	. . .	Feb. 24	Feb. 24	Feb. 24
Bluebird	Feb. 10	Feb. 25	Mar. 4	Feb. 25	Res.	Res.	Mar. 10	Feb. 19	Feb. 17	Feb. 24	. . .	Mar. 11	Feb. 27	Feb. 26

Names.	Cape May, N. J. E. 13; S. 72.	Vineland, N. J. E. 7; S. 32.	Downstown, N. J. E. 11; S. 28.	Concordville, Pa. W. 20; S. 5.	West Chester, Pa. W. 24; N. 0.	Hatboro, Pa. E. 2; N. 16.	Beverly, N. J. E. 13; N. 8.	Bordentown, N. J. E. 25; N. 13.	Allentown, N. J. E. 31; N. 16.	Mt. Holly, N. J. E. 19; N. 3.	Three Tuns, Pa. W. 1; N. 14.	Doylestown, Pa. E. 1; N. 26.	Buckingham, Pa. E. 4; N. 26.	Forestgrove, Pa. E. 2; N. 28.	Collegeville, Pa. W. 16; N. 18.	Reading, Pa. W. 40; N. 16.	Lopez, Pa. W. 60; N. 103.	Altoona, Pa. W. 176; N. 38.
Flicker	Mar. 2	Res.	Mar. 18	Res.	Mar. 9	Res.	Res.	Mar. 4	Mar. 25	Res.	Feb. 25	Mar. 17	Feb. 25	Mar. 8	Mar. 19	Mar. 12	Mar. 31	Mar. 31
Whip-poor-will	May 4	Apr. 2	Apr. 19	.....	.....	.....	May 6	.....	.....	May 14	.....	.....	.....	.....	May 15	May 14	May 6	May 21
Nighthawk	.....	.....	.....	May 5	May 16	.....	May 30	.....	.....	May 30	.....	.....	.....	.....	May 15	May 7	May 7	May 7
Chimney Swift	Apr. 29	Apr. 18	May 2	Apr. 19	Apr. 19	.....	May 1	Apr. 20	.....	Apr. 20	.....	Apr. 24	Apr. 22	Apr. 29	Apr. 24	Apr. 20	.....	May 7
Hummingbird	May 25	May 23	.....	May 11	May 7	.....	May 11	May 20	May 8	May 3	May 18	.....	May 20	.....	.....	.....	May 12	May 11
Kingbird	May 4	.....	May 1	May 2	May 3	Apr. 29	May 12	May 10	Mar. 14	May 7	May 6	May 15	May 7	May 8	May 7	May 4	May 7	May 18
Crested Flycatcher	.....	May 17	May 6	May 2	Apr. 28	.....	May 8	May 6	.....	May 6	May 12	May 11	May 12	May 6	May 6	May 10	.....	May 11
Phoebe	.....	.....	.....	May 20	Mar. 15	Mar. 20	Apr. 16	Apr. 2	.....	Mar. 24	May 23	Mar. 19	Mar 31	Mar. 7	Mar. 30	Mar. 23	Mar. 20	Mar. 31
Bobolink	.....	.....	.....	May 7	May 10	May 3	.....	.....	.....	.....	May 6	May 6	May 13	May 7	.....	.....	.....	May 9
Cowbird	.....	.....	.....	May 19	Mar. 6	Mar. 9	.....	Apr. 1	Apr. 9	Mar. 31	May 12	.....	.....	.....	.....	Mar. 23	.....	Mar. 31
Red-winged Blackbird	Feb. 12	Res.	Mar. 24	Mar. 3	Feb. 28	Mar. 9	Feb. 27	Mar. 7	Mar 16	Mar. 1	Mar. 20	Mar. 10	Mar. 9	Mar. 6	Mar. 11	Mar. 5	Mar. 6	Apr. 14
Baltimore Oriole	.....	May 3	.....	May 6	May 1	May 11	May 5	May 3	May 9	May 6	Apr. 30	May 11	May 2	May 8	May 5	May 6	May 7	May 4
Purple Grackle	Feb. 27	Res.	.....	May 15	Feb. 12	Feb. 27	Mar. 3	.....	.....	Feb. 14	Feb. 7	Feb. 24	Feb. 7	Feb. 25	Feb. 26	Mar. 4	.....	Mar. 17
Chipping Sparrow	Apr. 3	Mar. 4	Apr. 1	Mar. 30	Apr. 3	Mar. 20	.....	Apr. 2	Apr. 2	Apr. 3	Apr. 7	Apr. 5	Apr. 18	Apr. 20	Apr. 6	Apr. 14	Apr. 28	Apr. 17
Chewink	.....	Mar. 4	Apr. 28	Apr. 21	Apr. 16	Apr. 20	Apr. 28	Apr. 6	.....	Apr. 19	Apr. 19	Apr. 26	.....	May 5	Apr. 20	Apr. 21	Apr. 30	Apr. 18
Indigobird	May 4	May 18	.....	May 6	May 7	May 15	May 18	May 20	.....	May 12	.....	May 6	.....	.....	May 13	May 10	.....	May 18
Scarlet Tanager	.....	.....	May 20	May 7	May 7	May 16	May 12	May 10	.....	May 11	May 14	May 12	.....	.....	May 6	May 11	May 16	May 19
Purple Martin	Apr. 16	Apr. 17	Apr. 4	.....	Apr. 6	.....	Apr. 21	Apr. 20	.....	Mar. 31	May 22	Apr. 18	.....	Apr. 13	.....	Apr. 16	.....	May 3
Barn Swallow	Apr. 30	.....	.....	Apr. 24	Apr. 24	Apr. 29	May 11	Apr. 30	.....	Apr. 22	May 6	Apr. 28	May 2	Apr. 30	Apr. 15	Apr. 20	Apr. 28	Apr. 21
Red-eyed Vireo	.....	.....	May 12	May 14	May 6	May 11	May 7	May 10	May 22	May 5	May 16	May 14	May 18	.....	May 13	May 11	May 17	May 17
Black-and-white Warbler	.....	May 13	.....	Apr. 29	May 2	.....	May 12	May 1	.....	Apr. 25	May 2	May 2	Apr. 30	May 6	May 5	Apr. 30	May 5	May 5
Chestnut-sided Warbler	.....	.....	.....	.....	May 7	.....	May 13	.....	.....	.....	May 12	.....	.....	.....	.....	May 6	May 7	May 12
Ovenbird	May 4	.....	Apr. 30	May 2	Apr. 30	Apr. 30	May 11	May 15	.....	May 3	May 13	Apr. 28	.....	May 4	.....	May 5	May 6	May 5
Maryland Yellow-throat	Apr. 30	.....	May 5	May 3	Apr 30	May 14	May 5	May 10	.....	Apr. 28	May 16	May 6	.....	May 5	.....	Muy 3	May 13	May 11
Chat	.....	May 19	May 19	May 7	May 2	Apr. 30	May 12	May 12	..	May 30	.....	.....	.....	.....	.....	May 10	.....	May 11
Catbird	.....	Apr. 26	May 5	May 3	Apr 25	May 11	May 4	May 2	May 12	May 3	May 11	May 3	May 12	May 8	May 6	Apr. 30	May 12	May 12
Brown Thrasher	Apr. 16	Apr. 20	Apr. 28	Apr. 23	Apr. 18	.....	May 4	Apr. 25	.....	Apr. 19	Apr. 21	Apr. 24	Apr. 30	Apr. 30	Apr. 24	Apr. 27	Apr. 27	Apr. 21
House Wren	May 4	May 8	Apr. 30	Apr. 28	Apr. 16	.....	Apr 28	Apr. 30	May 8	Apr. 24	May 6	May 12	Apr. 30	Apr. 27	Apr. 23	Apr. 27	May 5	May 4
Wood Thrush	May 4	.....	May 12	May 3	May 1	May 3	May 1	May 6	Apr. 26	May 3	May 2	May 11	.....	May 6	.....	May 6	.....	May 12
Hermit Thrush	.....	Apr. 17	.....	Apr. 6	Apr. 7	Mar. 23	Apr. 17	.....	.....	Apr. 7	.....	Apr. 14	.....	Apr. 16	Apr. 14	Apr. 16	Apr. 10	Apr. 14
Robin	.....	Mar. 1	Feb. 19	Feb. 14	Feb. 10	Mar. 4	Feb 24	May 6	Mar. 10	Res.	Feb. 25	.....	Feb. 25	Feb. 27	Mar. 2	Feb. 23	Mar. 2	.....
Bluebird	.....	Feb. 13	Feb. 29	Feb. 24	Feb. 15	Mar. 6	Feb. 17	Res.	Mar. 10	Res.	Feb. 27	.....	Res.	.....	Feb. 27	Mar. 5	Feb. 27	.....

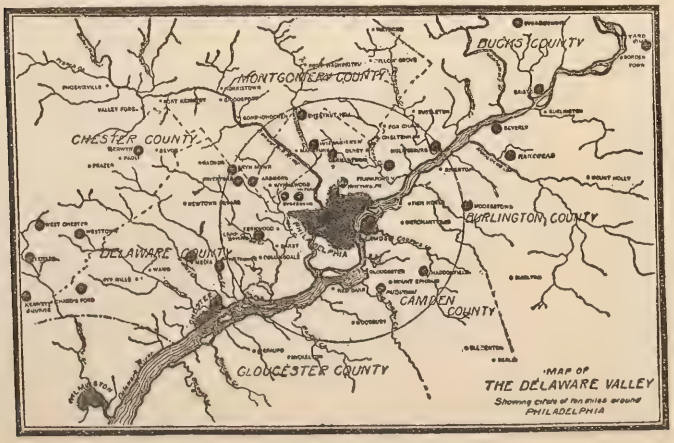


TABLE II.

SPRING MIGRATION, 1918.

EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES AT EIGHTEEN STATIONS OUTSIDE THE PHILADELPHIA CIRCLE.

*List of Other Species Reported by Observers during 1917, and Additional Notes on Species Contained in the Schedule. Autumn Dates Refer to Autumn of 1916 Unless Otherwise Stated.**

Holboell's Grebe, *Colymbus holboelli.* Atlantic City, N. J., April 2 (*Carter*); Beverly, N. J., March 11 (*Baird*).

Horned Grebe, *Colymbus auritus.* Fish House, N. J., April 21 (*Miller*); Concordville, April 12 (*Styer*); Westtown, April 19 (1) April 26 (2) (*Evans*); Mohnton, Berks Co., Pa., Nov. 10 (*Poole*).

Pied-billed Grebe, *Podilymbus podiceps.* Westtown, Oct. 21 and Nov. 12 (*Evans*); West Chester, April 6 (*Sharpless*); Cheyney, adult male found dead by a calamus marsh; June 13 apparently breeding (*S. Trotter*); Muhlenberg, Berks Co., Nov. 18 (2) (*Poole*); Doylestown, (Tuck Dam) April 3 (1) and April 14 (2) (*MacReynolds*).

Loon, *Gavia immer.* Swarthmore, April 14, two flying over, (*Ellis*); Reading, one seen, May 6, 8 and 11 (*Poole*).

Black Skimmer, *Rynchops nigra.* Stone Harbor, N. J., Aug. 13 (2) (*Street*).

Gannet, *Sula bassana.* Cape May, N. J., Nov. 3 (*Hand*).

Herring Gull, *Larus argentatus.* Atlantic City, N. J., Aug. 28–May 17 (*Cromie*); Frankford, Oct. 12–April 28 (*Miller*); Camden, N. J., last seen, May 30 (*Potter*); Stone Harbor, N. J., arrived, Aug. 6, 1916, common, Sept. 10 (*Street*); Beverly, N. J., Oct. 19–May 18 (*Baird*).

Ring-billed Gull, *Larus delawarensis.* Stone Harbor, N. J., Aug. 6, 20, 26 and Sept. 2 (*Street*).

Laughing Gull, *Larus atricilla.* Atlantic City, N. J., May 17 (*Cromie*); Cape May, N. J., April 23 (*Hand*).

Bonaparte's Gull, *Larus philadelphia.* Fish House, N. J., April 19 (15) (*Potter*); Bridesburg, May 8 (4) (*Miller*).

Least Tern, *Sterna antillarum.* Stone Harbor, N. J., six on Aug. 26 (*Street*).

Sooty Tern, *Sterna fuliginosa.* Specimen secured at Corson's Inlet, N. J., Sept. 7, 1916 (*Huber*).

* Localities are in Pennsylvania unless otherwise marked.

Black Tern, *Hydrochelidon nigra surinamensis.* Stone Harbor, N. J., two on July 30 (*Street*).

Merganser, *Mergus americanus.* Cape May, N. J., April 8 (*Hand*); Camden, N. J., Feb. 27–April 14 (*Potter*); Beverly, N. J., May 1 (*Street*); Darby Creek, Lansdowne, Jan. 7 (*Hallett*); Westtown, March 18 (*Evans*); Doylestown, on Neshaminy Creek, March 25 and April 1 (*MacReynolds*); Reading, Feb. 17–April 27 (*Poole*).

Black Duck, *Anas rubripes.* Salem, N. J., April 1 (1) apparently nesting (*Street*); Retreat, N. J., April 3 (*Pumyea*); Crum Creek, Swarthmore, March 28 (*Ellis* and *Howard*); Tinicum, Feb. 15 (*Miller*); Doylestown, Neshaminy Creek, March 25 (3) (*MacReynolds*); Reading, April 22 (4) (*Poole*).

Mallard, *Anas brachyrhynchos.* Concordville, May 19 (*Styer*); Pochack Creek, N. J., April 21 and 27 (*Miller*); Doylestown, March 25 (2) (*MacReynolds*); Retreat, N. J., April 3 (*Pumyea*).

Pintail, *Dafila acuta.* Manoa, on Darby Creek, a pair, April 1 (*Miller*), Haverford, April 1 (*Serrill*); abundant at Beverly, N. J., Feb. 26 (*Street*).

Wood Duck, *Aix sponsa.* All summer apparently breeding, Mt. Holly, N. J. (*Pumyea*); Salem, N. J., April 15, apparently breeding (*Street*); Forest Grove, April 17 (2) (*Bewley*); Delaware River at Lambertville, June 2, a female (*MacReynolds*).

Lesser Scaup, *Marila affinis.* East Park Reservoir, Dec. 5 (40) and Bridesburg, Dec. 25 (5) (*Miller*); Reading, April 27 and May 6 (*Poole*).

Bufflehead, *Charitonetta albeola.* Haverford, March 17, a pair (*Serrill*); Westtown, Nov. 11, flock of 10 (*Evans*).

Old-squaw, *Harelda hyemalis.* Reading, Feb. 14 (*Poole*).

Canada Goose, *Branta canadensis canadensis.* Westtown, Nov. 30, 1916, flock (*Evans*); Chester, Feb. 26 (3) (*Carter*).

Greater Snow Goose, *Chen hyperboreus nivalis.* Ardmore, May 17, several flying over (*Baily*).

Whistling Swan, *Olor columbianus.* Cape May, N. J., one shot by a gunner, Feb. 1 (*Hand*).

Bittern, *Botaurus lentiginosus.* Cape May, N. J., Dec. 5, two caught in a trap (*Hand*); Moorestown, N. J., April 15 (*Mickle*); Haverford, May 5 and 20 (*Serrill* and *Scoville*); Pensauken Creek,

N. J., April 21 (*Miller*); Reading, May 19 (*Poole*); Newton, N. J., nest and 4 fresh eggs, June 3 (*Scoville*).

Least Bittern, *Ixobrychus exilis.* Bridgewater on the Delaware, one shot.

Great Blue Heron, *Ardea herodias herodias.* Salem, N. J., nests and eggs, April 15 (*Street*); Fish House, N. J., Jan. 6 (*Potter*); Retreat, N. J., April 3 (*Pumyea*); Audubon, N. J., April 29 (*Tatum*); Moorestown, N. J., April 15 (*Mickle*); Concordville, April 2 (*Styer*); Haverford, April 15 (*Serrill*); Perkasie, April 27 (*Rutter*); Reading, May 19 (*Poole*).

Little Blue Heron, *Florida coerulea.* Stone Harbor, N. J., Aug. 24 (*Street*).

Green Heron, *Butorides virescens virescens.* Cape May, N. J., Nov. 21 (2) (*Hand*).

Black-crowned Night Heron, *Nycticorax nycticorax naevius.* Peermont, N. J., eggs, May 11 (*Street*).

Virginia Rail, *Rallus virginianus.* Mt. Holly, N. J., May 29 (*Pumyea*); Germantown, one on a lawn, April 20 (*W. H. Trotter*).

Sora, *Porzana carolina.* Carversville, May 25, one found dead, reported to have nested there (*MacReynolds*).

Florida Gallinule, *Gallinula galeata.* Bridesburg, arrived late in April, increasing (*Miller*); Clifton Heights, Oct. 14, 1917 (*Culver*); West Chester, Aug. 14, 1917 (*Ehinger*); one found dead at Haddonfield, N. J. May, 1917 (*Rhoads*).

Purple Gallinule, *Ionornis martinica.* Cape May, N. J., May 22, two killed (*Hand*).

Northern Phalarope, *Lobipes lobatus.* Camden, N. J., Aug. 13, two watched for half an hour, at from 15 to 50 yards (*Potter*).

Woodcock, *Philohela minor.* Mt. Holly, N. J., March 11 and May 14 (*Pumyea*); Beverly, N. J., April 1 (*Street*); Frankford, May 7 (*Miller*); Haverford, May 8 (*Serrill*); Westtown, March 16 (*Evans*); Forest Grove, April 2 (*Bewley*); Doylestown, March 31 (*MacReynolds*).

Wilson's Snipe, *Gallinago delicata.* Cape May, N. J., Dec. 5, March 16 and abundant on April 8 (*Hand*); Aramingo, December 23 (4), Jan 1 and 13 and Mar. 1 (*Miller*); Brides-

burg, May 8 (*Miller*); Westtown, April 22 (*Evans*); Reading, May 6 (*Poole*).

Red-backed Sandpiper, *Pelidna alpina sakhalina.* Several found dead at Villa Nova, Oct. 27, 1917, perfectly fresh (*Stone*).

Least Sandpiper, *Pisobia minutilla.* Cape May, N. J., April 19 (*Hand*); Atlantic City, N. J., May 30 (*Cromie*); Concordville, April 16 (*Styer*); Bridesburg, May 8–22 (*Miller*); Peermont, N. J., Aug. 20 (*Street*).

Semipalmated Sandpiper, *Ereunetes pusillus.* Atlantic City, N. J., May 30 (*Cromie*); Stone Harbor, N. J., Aug. 26–Sept. 10 (*Street*); Bridesburg, May 8–22 (*Miller*).

Sanderling, *Calidris leucophaea.* Wildwood Crest, N. J., Aug. 10–26 (*Prince*); Stone Harbor, N. J., July 23–Sept. 10 (*Street*).

Greater Yellowlegs, *Totanus melanoleucus.* Cape May, N. J., March 16 (*Hand*) ; Atlantic City, N. J., May 16 (*Cromie*) ; Camden, N. J., April 27 (7) (*Miller*), April 28 (*Street*) ; Bridesburg, May 8–22 (*Miller*) ; Moorestown, N. J., May 8–12 (*Mickle*) ; Concordville, April 1 and May 7 (*Styer*) ; Doylestown, May 20–22 (*MacReynolds*) ; Reading, May 6–12 (*Poole*).

Willet, *Catoptrophorus semipalmatus semipalmatus.* Stone Harbor, N. J., Aug. 20 (26) (*Potter*).

Upland Plover, *Bartramia longicauda.* Forest Grove, April 17 (*Bewley*) ; Perkasie, April 19 (*Rutter*) ; Doylestown, April 22 (3) (*MacReynolds*) ; Reading, April 27–28 (*Poole*).

Hudsonian Curlew, *Numenius hudsonicus.* Cape May, N. J., April 23 (*Hand*) ; Stone Harbor, N. J., Aug. 20 (16) (*Potter*).

Black-bellied Plover, *Squatarola squatarola.* Cape May, N. J., April 23 (*Hand*) ; Stone Harbor, N. J., Aug. 20 (5) (*Potter*) ; Aug. 26 and Sept. 2 (*Street*).

Killdeer, *Oxyechus vociferus.* Westtown, Dec. 3 (*Evans*) ; Salem, N. J., eggs April 14 (*Street*).

Semipalmated Plover, *Aegialitis semipalmata.* Atlantic City, N. J., May 26 ; Moorestown, N. J., May 26 a pair (*Linton*) ; Peermont, N. J., July 30, common Aug. 6 (*Street*).

Piping Plover, *Aegialitis meloda.* Stone Harbor, N. J., Aug. 6 and 26, 1916 (*Street*).

Ruddy Turnstone, *Arenaria interpres.* Cape May, N. J., May

2 (*Hand*) ; Sept. 4 (*Potter*); Wildwood Crest, N. J., Aug. 10–28 (*Prince*) ; Peermont, N. J., Aug. 26 (*Street*).

Bobwhite, *Colinus virginianus virginianus.* Numerous at Audubon and Downstown, N. J.; first seen at Reading, April 14 (*Poole*).

Dove, *Zenaidura macroura carolinensis.* Ridley Park, eggs, April 29 (*Lloyd*) ; Lansdowne, last seen Oct. 18 (*Hallett*).

Turkey Vulture, *Cathartes aura septentrionalis.* Salem, N. J., eggs, April 14 (*Street*).

Marsh Hawk, *Circus hudsonius.* Newton, N. J., nest and 5 eggs well incubated, June 2 (*Scoville*).

Cooper's Hawk, *Accipiter cooperi.* Willow Grove, nest and eggs, June 11 (*Street*).

Goshawk, *Astur atricapillus atricapillus.* Reading, Feb. 15 (*Poole*).

Red-shouldered Hawk, *Buteo lineatus lineatus.* Salem, N. J., eggs, April 28 (*Street*).

Broad-winged Hawk, *Buteo platypterus.* Haverford, (3) on April 22 (*Serrill*) ; Westtown, April 22 (*Evans*) ; West Chester, April 21 (*Sharples*) ; Reading, April 22 (*Poole*) ; Lansdowne, Oct. 14 (Hallett), Haddonfield, N. J., nest and one egg, May 16 (*Miller*).

Rough-legged Hawk, *Archibuteo lagopus sancti-johannis.* Bridesburg, Dec. 4, Jan. 18 and 20, Feb. 3 and 14 (*Miller*) ; Norristown, March 10 (*Poole*) ; one shot at Lima, Oct. 29, 1917 (*Culver*).

Bald Eagle, *Haliæetus leucocephalus leucocephalus.* Atlantic City, N. J., Feb. 21 (*Cromie*) ; Buckshutem, N. J., March 2 (*Prince*) ; Tinicum, May 11 (*Miller*) ; West Chester, May 12 (*Sharples*) ; Schuylkill River, near Gibraltar, March 16 (*Poole*).

Duck Hawk, *Falco peregrinus anatum.* Delaware River, below Kintnersville (*MacReynolds*).

Osprey, *Pandion haliaetus carolinensis.* Cape May, N. J., Nov. 17 (2) (*Hand*) ; Westtown, and one remained April 2–22 (*Evans*) ; Peermont, N. J., eggs, May 11 (*Street*).

Barn Owl, *Aluco pratincola.* Gloucester, N. J., Dec. 25 to Feb. 25 (*Potter*) ; Salem, N. J., nest and 7 eggs, April 7, nest and 5 eggs, April 15 (*Street*).

Long-eared Owl, *Asio wilsonianus.* Gloucester, N. J., Feb. 17 (7) (*Potter*) ; Concordville, Dec. 29 (*Styer*) ; West Chester, a pair, Feb. 25 (*Roberts*) ; March 13, also nested, (*De Haven*).

Short-eared Owl, *Asio flammeus.* Bridesburg, Dec. 23 (3), Jan. 22 (2) (*Miller*).

Screech Owl, *Otus asio asio.* Elmwood, eggs, March 24 (*Miller*).

Saw-whet Owl, *Nyctala acadica.* Camden, Nov. 2, 1917 (*Potter*).

Great Horned Owl, *Bubo virginianus virginianus.* Concordville, March 21 (*Styer*).

Kingfisher, *Ceryle alcyon alcyon.* Moorestown, N. J., Dec. 26 (*Hallett*) ; Westtown, last seen, Nov. 12 (*Evans*) ; Doylestown, all winter (*MacReynolds*).

Red-headed Woodpecker, *Melanerpes erythrocephalus.* Bred at Haddonfield, N. J. (*Rhoads*), and at Audubon, N. J. (*Tatum*).

Hairy Woodpecker, *Dryobates villosus villosus.* Vereesville, eggs, April 23 (*Miller*) ; Reading, nesting, May 26 (*Poole*) ; Beverly, N. J., April 21, eggs, (*Street*).

Whip-poor-will, *Antrostomus vociferus vociferus.* Frankford, Sept. 30 (*Miller*).

Olive-sided Flycatcher, *Nuttallornis borealis.* Haverford, May 26 (*Serrill*).

Horned Lark, *Otocoris alpestris alpestris.* Mt. Holly, N. J., March 6 (*Pumyea*) ; Beverly, N. J., Dec. 23, 1917 (*Street*) ; Moorestown, N. J., 50 on Dec. 25 and 110 in 3 flocks on Dec. 26 (*Hallett*) ; Olney, Nov. 11–14, 1917 (*Morris*) ; Westtown, Jan. 28 and March 7 (*Evans*) ; West Chester, March 9 (3 pairs) (*Roberts*) ; Reading, March 9 (40), March 15 (10) (*Poole*).

Starling, *Sturnus vulgaris.* Lansdowne, easily the commonest winter bird; large increase in four years; March 11 the air full of them, flying singly like swallows (*Hallett*); Cresco, Monroe Co., May 23 and Newfoundland, Wayne Co., May 25 (*Miller*); Wayne, in a large flock feeding on Ampelopsis berries, Dec. 23 (*Alexander*); Westtown, abundant all winter feeding on Ampelopsis (*Evans*); Reading, increasing (*Poole*).

Bobolink, *Dolichonyx oryzivorus.* Westtown, remained May 4–25 (*Evans*); Peermont, N. J., Aug. 26 (7) (*Street*).

Red-winged Blackbird, *Agelaius phoeniceus phoeniceus.* Haverford, May 26 eggs (*Scoville*).

Rusty Blackbird, *Euphagus carolinus.* Bridesburg, Dec. 20 and 23 (*Miller*); Westtown, last seen Oct. 22 (*Evans*); Reading, last in spring, May 14 (*Poole*).

Meadow Lark, *Sturnella magna magna.* Haverford, eggs, May 26 (*Scoville*).

Purple Grackle, *Quiscalus quiscula quiscula.* Mt. Holly, N. J., fed in the yard, Dec. to Feb. (*Pumyea*); Lansdowne, last seen Oct. 31 and 2 on Dec. 25 (*Hallett*); Swarthmore, Dec. 24 (*Hallett*); Bridesburg, Nov. 30 (2) (*Miller*); Westtown, last seen. Nov. 12 (*Evans*).

Evening Grosbeak, *Hesperiphona vespertina vespertina.* Cinnaminson, N. J., Dec. 3 (*Chas. Evans*); Westville, N. J., Dec. 25 (6) (*Potter*); Rancocas, N. J., April 11–12 one male, (*Haines*); Mt. Holly, N. J., Dec. 24 (2), April 8 (6), April 26 (8) (*Pumyea*); Swarthmore, April 21, a pair (*Palmer*); Ardmore, Dec. 31 (1) (*Serrill*); York Co., March (22) (*Sharples*); Lopez, May 12 (20) (*Behr*); Birdsboro, April 15 (2) and April 22 (1) (*G. H. Mengel*); New Lisbon, N. J., Jan. 29 (74), Feb. 11 (40), Feb. 17 (30), Feb. 22 (4), Mar. 11 (15) (*Scoville*); Mar. 2 (50), Mar. 12 (30), Mar. 20 (6) (*Huber*); Birmingham, N. J., Mar. 2 (5), Mar. 6 (4) (*Huber*); Browns' Mills in the Pines, N. J., Jan. 10 (65) (*E. P. Darlington, M. D.*); Beverly, N. J., Mar. 11 (*Street*); Wenonah, N. J., April 2 (*Erskine* and *Morris*); Haverford, March 25 (6), 26 (4), April 1 (1), 15 (4) (*Scoville*); Gwynedd Valley, May 24 (1 male) (*Huber*); Hammonton, N. J., February 22 and most of the winter previously and to March 26, (*Basset*); Lumberton, N. J., March 14 (1) (*B. F. Clayberger*).

Purple Finch, *Carpodacus purpureus purpureus.* Vineland, N. J., last, April 30 (*Prince*); Moorestown, N. J., April 29–May 20 (*Mickle*); also Jan. 30 (*Wierman*); Mt. Holly, N. J., Oct. 7 and May 17 (*Pumyea*); Concordville, April 11 (*Styer*); Swarthmore, abundant May 8–9 (*Palmer*); Lansdowne, Oct. 18 and Nov. 7; and last in spring, May 3 (*Hallett*); Frankford, Sept. 25 and late May (*Miller*); Ardmore, March 11 and April 27 (*Baily* and *Howard*); Westtown, Oct. 22 and May 20 but not in the

depth of the winter (*Evans*); West Chester first in spring, April 9 (*Roberts*); Doylestown, Feb. 18 and May 20 (*MacReynolds*); Reading, March 25 and May 19 (*Poole*).

Red Crossbill, *Loxia curvirostra minor.* Atlantic City, N. J., Feb. 21 (*Cromie*); Mt. Holly, N. J., Nov. 17 and Feb. 22 (*Pumyea*); New Lisbon, N. J., Feb. 22 (*Hallett*); Westtown, Feb. 18 and May 11–12 (*Evans*).

White-winged Crossbill, *Loxia leucoptera.* Moorestown, N. J., 36 during the day, Dec. 26 (*Mickle*); Lansdowne, Jan. 7 and March 12 (*Hallett*); New Lisbon, N. J., Feb. 22 (*Hallett*); May's Landing, N. J., Christmas week (*Morris*); Ardmore, Jan. 7 (*Baily*); Beverly, N. J., Dec. 10 (*Street*), and Dec. 25 (*Baird*).

Snow Bunting, *Plectrophenax nivalis nivalis.* Corson's Inlet, N. J., Dec. 28–29, 1916 and Nov. 11, 1917 (*Huber*).

Redpoll, *Acanthis linaria linaria.* Corson's Inlet, N. J., Dec. 29, 1916 (*Huber*); Mt. Holly, N. J., March 25 (*Pumyea*); Beverly, N. J., Mar. 11 (*Street*); Wayne, Jan. 15 (*Alexander*); West Chester, Jan. 16 (2) and Feb. 25 (3) (*Roberts*); New Lisbon, N. J., Feb. 22 (*Street*); Haverford, Feb. 25 (*Scoville*); Doylestown, Dec. 17 (sev.) and 25 (50) (*MacReynolds*); Reading, Jan. 6 (25), March 8 (1) and 16 (2) (*Poole*); Gwynedd Valley, Jan. 27, 1917 (*Huber*).

Goldfinch, *Astragalinus tristis tristis.* Swarthmore, very abundant, May 9 (*Palmer*); Ridley Park, abundant after April 29 (*Lloyd*); Lansdowne, Oct. 18 to Nov. 24 then scarce until May 2 (*Hallett*); Ardmore, none till April 22 (*Baily*); West Chester, very abundant April 12–May (*Roberts*); Doylestown, last seen Dec. 15 then none until April 22 (*MacReynolds*).

Pine Siskin, *Spinus pinus.* Corson's Inlet, N. J., Dec. 28–30, 1916 (*Huber*); Moorestown, N. J., Feb. 27 to March 20 (*Mickle*); Mt. Holly, N. J., Nov. 18 to March 11 (*Pumyea*); Gwynedd Valley, Nov. 1, 1917 (*Huber*); Concordville, May 4 (*Styer*); Swarthmore, May 12 (*Ellis*); Lansdowne, Oct. 23 to Nov. 1 flock of 13 also Nov. 10–19 and Jan. 7 (*Hallett*); West Chester, May 13 (*Roberts*); and May 17 (*Ehinger*); Haverford, May 10 and 14 (*Scoville*).

Ipswich Sparrow, *Passerculus princeps.* Corson's Inlet, N. J., Dec. 28–29, 1916 (*Huber*).

WHITE-CROWNED SPARROW, *Zonotrichia leucophrys leucophrys.* Camden, N. J., May 16 (3) (*Potter*); Rancocas, N. J., May 17 (*Haines*); Moorestown, N. J., May 17 (*Mickle*) Audubon, N. J., May 20 (1) (*Tatum*); Concordville, May 12–24 (4) (*Styer*); Haverford, May 20 (pair) (*Serrill*); Westtown, May 6, 14, and 17 (*Evans*); West Chester, numerous May 14 and 17 (*Roberts*); Chester, Oct. 25, 1917 (*Carter*); Forest Grove, May 16 (*Bewley*); Buckingham, May 16 and 29 (*Cox*); Reading, May 6 (1), 17 (25), 18, lawns alive with them, 2 collected, 19 (3) (*Poole*); Beverly, N. J., May 19 (*Baird*); Haverford, May 20 (*Scoville*); Swarthmore, May 12 (*Harrower*); Cheyney, May 12 (1 taken) (*S. Trotter*).

WHITE-THROATED SPARROW, *Zonotrichia albicollis.* Last seen Atlantic City, N. J., May 25 (*Cromie*); Downstown, N. J., May 18 (*Fair*); Haverford, May 29 (*Howard*); West Chester, May 21 (*Roberts*); Forest Grove, May 10 (*Bewley*); Perkasie, May 8 (*Rutter*); Vineland, N. J., Oct. 11–May 19 (*Prince*); Moorestown, N. J., Sept. 23–May 26 (*Wierman* and *Linton*); Mt. Holly, N. J., Sept. 25–May 17 (*Pumyea*); Lansdowne, Oct. 9–Nov. 13 and April 15–May 10, occasional in winter (*Hallett*); Westtown, Oct. 19–May 23 (*Evans*); Buckingham, Sept. 24–May 27 (*Cox*); Doylestown, Oct. 1–Nov. 5 and April 18–May (*MacReynolds*); Reading, Feb. 17–May 22 (*Poole*); Beverly, N. J., Oct. 1–May 20 (*Baird*).

TREE SPARROW, *Spizella monticola monticola.* Mt. Holly, N. J., Oct. 17–Apr. 22 (*Pumyea*); Westtown, Dec. 10–Mar. 7 (*Evans*); West Chester, Jan. 19–April 10 (*Roberts*); Doylestown, Nov. 19–March 18 (*MacReynolds*); Beverly, N. J., Nov. 19–April 15 (*Baird*); last seen, Swarthmore, April 1 (*Ellis*); Haverford, April 11 (*Howard*); Perkasie, April 13 (*Rutter*); Reading, March 24 (*Poole*).

FIELD SPARROW, *Spizella pusilla pusilla.* Lansdowne, Jan. 7 (*Hallett*).

JUNCO, *Junco hyemalis hyemalis.* Oct. 30–April 6 (*Prince*); Doylestown, N. J., Oct. 22–April 20 (*Fair*); Moorestown, N. J., Sept. 23–May 15 (*Wierman* and *Linton*); Mt. Holly, N. J., Oct. 1–April 22 (*Pumyea*); Lansdowne, Oct. 15–April 20 (*Hallett*); Frankford, Sept. 24–May 7 (*Miller*); Wayne, Sept.

24–May 15 (*Cornelius*); Westtown, Nov. 7–May 6 (*Evans*); West Chester, Oct. 1–May 17 (*Sharples* and *Roberts*); Doylestown, Oct. 4 – May 6 (*MacReynolds*); Bordentown, N. J., Sept. 10–April 14 (*Flynn*); Beverly, N. J., Oct. 12–April 29 (*Baird*); last seen Concordville, May 16 (*Styer*); Ridley Park, April 22 (*Lloyd*); Haverford, May 15 (*Serrill*); Swarthmore, April 30 (*Howard*); Perkasie, May 6 (*Rutter*); Reading, April 28 (*Poole*).

Fox Sparrow, *Passerella iliaca iliaca.* Frankford, Dec. 25 (*Miller*); Westtown, until March 18 (*Evans*).

Towhee, *Pipilo erythrophthalmus erythrophthalmus.* New Lisbon, N. J., Jan. 29, 1917 (*Scoville*).

Cardinal, *Cardinalis cardinalis cardinalis.* Haverford, eggs May 20 (*Scoville*).

Tree Swallow, *Iridoprocne bicolor.* Stone Harbor, N. J., Aug. 26 (1000), Sept. 2 (3000), Sept. 10 (3000) (*Street*).

Northern Shrike, *Lanius borealis.* Center Square, Nov. 24, 1917 (*W. E. Roberts*); Moorestown, N. J., Oct. 28 (*Mickle*).

Blue-winged Warbler, *Vermivora pinus.* Vineland, N. J., Sept. 5 (*Prince*).

Golden-winged Warbler, *Vermivora chrysoptera.* Camden, N. J., Sept. 2 (*Potter*); Audubon, N. J., May 27 (*Tatum*); Moorestown, N. J., May 15, 17 and 18 (*Linton* and *Mickle*); Haverford, May 4 (*Serrill*); Swarthmore, May 20 (*Howard*); Devon, May 18 (*Cornelius*); Westtown, May 6 (*Evans*); West Chester, May 17 (*DeHaven*).

Nashville Warbler, *Vermivora rubricapilla rubricapilla.* Audubon, N. J., May 20 (*Tatum*); Moorestown, N. J., May 7 and 17 (*Linton* and *Mickle*); Swarthmore, May 5 (*Harrower*), May 28 (*Ellis*); New Lisbon, N. J., May 20 (*Hallett*); Ardmore, May 8 (*Baily*); Mt. Pocono, May 20 (*Baily*); Haverford, May 4 (*Serrill*); West Chester, May 21 (*Roberts*) and May 20 (*Sharples*); Doylestown, May 16 (*MacReynolds*).

Tennessee Warbler, *Vermivora peregrina.* Camden, N. J., May 27 (*Potter*); Moorestown, N. J., May 17–June 2 (*Linton* and *Mickle*); Concordville, May 14–June 2 (*Styer*); Swarthmore, May 21-26 (*Palmer*); Lansdowne, May 21–June 2 (*Car-*

ter and *Hallett*) ; Mt. Pocono, May 20 (*Baily*) ; Ardmore, May 27 (*Baily*) ; Haverford, May 20-31 (*Serrill*) ; Westtown, May 15-20 (*Evans*) ; West Chester, May 21 (*Roberts*) and 25 (*DeHaven*) ; and May 20 (*Sharples*) ; Telford, May 13 (*Rutter*) ; Reading, May 22 (*Poole*) ; Beverly, N. J., May 29 (*Baird*) ; New Lisbon, N. J., May 27 (*Scoville*) ; Riverton, N. J., May 30 (*Street*).

Cape May Warbler, *Dendroica tigrina.* Atlantic City, N. J., May 15 (*Cromie*) ; Vineland, N. J., Sept. 14 (*Prince*) ; Downstown, N. J., May 24 (*Fair*) ; Moorestown, N. J., May 16-17 (*Linton* and *Mickle*), and frequent the end of Sept., 1916 (*Mickle*) ; Mt. Holly, N. J., May 17 (*Pumyea*) ; Concordville, May 12-31 (*Styer*) ; Haverford, May 26 (*Baily*), May 19 (6) (*Serrill*), May 17 and 20 (*Scoville*), and May 24 (*Howard*) ; Swarthmore, May 5 (*Harrower*) ; Devon, May 15 (*Cornelius*) ; Westtown, May 25 (*Evans*) ; West Chester, May 16-25 (*Roberts*) ; Germantown, May 20 (*Brown*) ; Collegeville, May 16 (*Kline*) ; Telford, May 20 (*Rutter*) ; Doylestown, May 16 (*MacReynolds*) ; Reading, May 19, and Monocasy, May 26 (*Poole*).

Myrtle Warbler, *Dendroica coronata.* Vineland, N. J., Oct. 17 (*Prince*) ; Mt. Holly, N. J., all winter (*Pumyea*) ; Lansdowne, Nov. 1 (*Hallett*) ; Wayne, Dec. 12-14 (*Cornelius*) ; Westtown, Oct. 22 (*Evans*) ; West Chester, Jan. 16, a pair feeding on ivy berries (*Roberts*) ; Beverly, N. J., Dec. 16 (*Street*).

Chestnut-sided Warbler, *Dendroica pensylvanica.* West Chester, until June 8 (*Roberts*).

Bay-breasted Warbler, *Dendroica castanea.* Atlantic City, N. J., May 28 (*Cromie*) ; Vineland, N. J., May 25 (*Prince*) ; Camden, N. J., May 27–June 2 (*Potter*) ; Audubon, N. J., May 21, common for several days (*Tatum*) ; Moorestown, N. J., May 20–June 2 (*Mickle*) ; Rancocas, N. J., May 27 (*Haines*) ; Mt. Holly, N. J., May 27 (*Pumyea*) ; Concordville, May 25-31 (*Styer*) ; Swarthmore, May 22 (*Ellis*) ; Lansdowne, May 26-27 (*Carter*) ; Haverford, May 19-31 (*Serrill*) ; Westtown, May 19 (*Evans*) ; West Chester, May 21 (*Roberts*) ; Germantown, May 21 (*Brown*) ; Collegeville, May 21 (*Kline*) ; Telford, May 20 (*Rutter*) ; Lopez, June 2 (*Behr*).

Pine Warbler, *Dendroica vigorsi.* Clementon, N. J., March 26 (*Miller*); full song at May's Landing, N. J., March 24-25 (*Morris*).

Palm Warbler, *Dendroica palmarum palmarum.* Reading, May 13(1) and May 14(2), studied within 10 feet (*Poole*).

Louisiana Water Thrush, *Seiurus motacilla.* Haverford, May 3 and 5 (*Serrill*); Reading, May 30 (*Poole*); Chestnut Hill, April 19 (*W. H. Trotter*); Doylestown, April 13–May 31 (breeding?) (*MacReynolds*).

Mourning Warbler, *Oporornis philadelphia.* Moorestown, N. J., May 30 (*Mickle*).

Hooded Warbler, *Wilsonia citrina.* Moorestown, N. J., May 17 (*Linton*); Haverford, April 22 (*Serrill*); Westtown, May 6 (*Evans*); West Chester, May 12 (*Sharples*); Collegeville, May 16 (*Kline*); Chestnut Hill, May 19 (*W. H. Trotter*).

Wilson's Warbler, *Wilsonia pusilla pusilla.* Atlantic City, N. J., May 30 (*Cromie*); Camden, N. J., May 15 (*Potter*); Audubon, N. J., May 25 (*Tatum*); Moorestown, N. J., May 17 (*Linton*); Concordville, May 16 (*Styer*); Swarthmore, May 25 (*Palmer*); New Lisbon, N. J., May 19 (*Hallett*); Haverford, May 20 (*Serrill*) and 26 (*Howard*); Westtown, May 21 (*Evans*); West Chester, May 15 (*DeHaven*); Buckingham, May 15 (*Cox*); Reading, May 22, 26 and 27 (*Poole*); Beverly, N. J., May 26 (*Baird*); Chestnut Hill, May 19 (*W. H. Trotter*).

Titlark, *Anthus rubescens.* State College, late October abundant (*Morris*); Camden, N. J., Nov. 2, 1917 (*Potter*); Westtown, Apr. 22 and 29 (large flock) (*Evans*); West Chester, May 17 (*Sharples*); Forest Grove, Apr. 8 (*Bewley*); Doylestown, Oct. 1-24 and Mar. 25–Apr. 8, abundant (*MacReynolds*); Lopez, May 18 (*Behr*), first time.

Catbird, *Dumetella carolinensis.* Upper Pensauken Creek, N. J., Dec. 25, 1916 (*Linton*).

Mockingbird, *Mimus polyglottos polyglottos.* Ardmore, May 27(2) (*Baily* and *Serrill*); West Chester, one bird present continuously Dec. 25–May 10 (*Sharples*); Westgrove, one seen Aug. 19 and 21, 1917, two and a half miles from site of former nest (*Roberts*).

Carolina Wren, *Thryothorus ludovicianus ludovicianus.* Swarthmore, eggs May 3 (*Palmer*); Westtown, seen but once, on May 6 (*Evans*); West Chester, only one seen, March 19 (*Roberts*).

House Wren, *Troglodytes aedon aedon.* West Chester, last seen Oct. 20 (*Roberts*).

Winter Wren, *Nannus hiemalis hiemalis.* Downstown, N. J., Oct. 7 (*Fair*); Mt. Holly, N. J., Oct. 7 (*Pumyea*); Concordville, April 29 (*Styer*); Swarthmore, April 11 (*Ellis*); Lansdowne, Jan. 7 only record (*Hallett*); Frankford, Sept. 23–May 8 (*Miller*); Westtown, Nov. 2 and April 17 (*Evans*); Doylestown, Feb. 25–April 16 (*MacReynolds*); Buckingham, Dec. 24–March 10 (*Cox*); Perkasie, April 22 (*Rutter*); Reading, March 25–April 14 (*Poole*).

Brown Creeper, *Certhia familiaris americana.* Vineland, N. J., Oct. 15–April 16 (*Prince*); Moorestown, N. J., Oct. 8 and all winter (*Mickle*); Mt. Holly, N. J., Oct. 1–April 25 (*Pumyea*); Wayne, Sept. 25–May 17 (*Cornelius*); Westtown, Dec. 10 – May 20 (*Evans*); West Chester, Oct. 8 – April 16 (*DeHaven*); Buckingham, Oct. 20–May 22 (*Cox*); Doylestown, March 18–April 22 (*MacReynolds*); Beverly, N. J., Oct. 13–April 29 (*Baird*); first seen Lansdowne, Oct. 21 (*Hallett*); Frankford, Sept. 30 (*Miller*); last seen, Swarthmore, May 14 (*Ellis*); Reading, April 28 (*Poole*).

White-breasted Nuthatcher, *Sitta carolinensis carolinensis.* Mt. Holly, N. J., Sept. 9–April 22 (*Pumyea*); Beverly, N. J., Oct. 12–April 1 (*Baird*).

Red-breasted Nuthatch, *Sitta canadensis.* Atlantic City, N. J., Feb. 21 (*Cromie*); Vineland, N. J., Oct. 16-19 (*Prince*); Downstown, N. J., Jan. 23 (*Fair*); Audubon, N. J., May 25 (*Tatum*); Concordville, May 11 (*Styer*); Swarthmore, Feb. 20 (*Ellis*), May 12 (*Harrower*); Moorestown, N. J., Dec. 26 (*Hallett*); Lansdowne, May 3 (*Hallett*); Wayne, Oct. 20 (*Alexander*); Westtown, Oct. 15 and May 20 (*Evans*); West Chester, May 8 (*Roberts*); Buckingham, Dec. 21–Feb. 13 (*Cox*); Doylestown, Sept. 3 (*MacReynolds*); Reading, Feb. 24 and May 22 (*Poole*); Peermont, N. J., Sept. 2 and 3 (*Street*); New Lisbon, N. J., Oct. 22 (*Scoville*).

Tufted Titmouse, *Baeolophus bicolor.* Swarthmore, nest and young, June 6 (*Palmer*).

Black-capped Chickadee, *Penthestes atricapillus atricapillus.* Concordville, March 23 (*Styer*); Ridley Park, March 23 (*Lloyd*); Lansdowne, March 16, common Oct.–Nov. 6 (*Hallett*); Haverford, May 3 (*Howard*); Reading, April 14 (*Poole*); Wayne, Sept. 24–April 20 (*Cornelius*); Westtown, Nov. 13–April 16 (*Evans*); West Chester, Oct. 11–April 10 (*Roberts* and *DeHaven*); Doylestown, Nov. 5–April 8 (*MacReynolds*).

Carolina Chickadee, *Penthestes carolinensis carolinensis.* Haddonfield, N. J., nest and eggs May 16 (*Miller*).

Hudsonian Chickadee, *Penthestes hudsonicus subsp.?* Pocono Lake, June 23 (*Street*); La Anna, Pike Co., June 3 (*Harlow* and *Burleigh*).

Blue-gray Gnatcatcher, *Polioptila caerulea caerulea.* Cape May, N. J., April 8 (*Hand*); Atlantic City, N. J., April 2 (*Carter*); Wenonah, N. J., April 2 (*Morris* and *Erskine*); Camden, N. J., October 7, 1917 (*Potter*).

Golden-crowned Kinglet, *Regulus satrapa satrapa.* Moorestown, N. J., Oct. 12–April 13 (*Mickle*); Mt. Holly, N. J., Oct. 1–April 17 (*Pumyea*); Lansdowne, Oct. 12–Nov. 6, occasional to Jan. 3 (*Hallett*); Westtown, Feb. 7 – April 18 (*Evans*); West Chester, Oct. 3–April 24 (*Roberts*); Doylestown, Nov. 5–April 22 (*MacReynolds*); Beverly, N. J., Oct. 1–April 15 (*Baird*); last seen, Swarthmore, March 24 (*Ellis*); Media, March 18 (*Moore*); Forest Grove, April 18 (*Bewley*); Perkasie, April 22 (*Rutter*); Reading, April 14 (*Poole*); first seen, Frankford, Sept. 22 (*Miller*).

Ruby-crowned Kinglet, *Regulus calendula calendula.* Lansdowne, Oct. 22 (*Hallett*); Cheltenham, one seen Dec. 14 (*Miller*); last seen, Westtown, May 8 (*Evans*).

Veery, *Hylocichla fuscescens fuscescens.* Vineland, N. J., remained to May 30 (*Prince*); Newton, N. J., eggs June 3 (*Scoville*).

Hermit Thrush, *Hylocichla guttata pallassi.* Westtown, last seen, Nov. 2 (*Evans*).

Robin, *Planesticus migratorius migratorius.* Lansdowne, Nov. 6, and Moorestown, N. J., Nov. 5 (*Hallett*); last seen, Westtown, Oct. 19 (*Evans*).

Abstract of the Proceedings of the Delaware Valley Ornithological Club, 1917.

J. FLETCHER STREET.

January 4, 1917. The twenty-seventh annual meeting of the Club. One visitor and thirty-five members present. The following officers were elected for the ensuing year :—

President—Henry W. Fowler,
Vice President—George H. Stuart, 3rd,
Treasurer—Samuel C. Palmer,
Secretary—J. Fletcher Street.

Mr. William L. Baily gave an interesting "Exhibition of Recent Lantern Slides," among which was a picture of the nest of the Olive-backed Thrush and a photograph of White Egrets secured at Pocono Lake. A collation followed the meeting.

Jan. 18, 1917. One visitor and twenty-three members present. Messrs. Stone, Stuart and Potter described a "June Trip to Cobb's Island, Va." A detailed list of the birds found there was given. Nests and eggs of the Gull-billed Tern and Oystercatcher were secured.

February 1, 1917. Twenty members present. A motion was carried that in event of the death of an active member there should be an article written and published in CASSINIA relating to his ornithological and Club activities. Mr. John D. Carter spoke upon the subject "The Poconos in 1916." The speaker gave a very interesting and detailed account of trips taken during May and June of last year. A list of the birds was presented. Mr. Samuel Scoville, Jr., followed with a paper entitled "Unscientific Review of the Excursion," being a humorous description of the activities of several of the Club members associated on these trips.

February 15th, 1917. Fifteen members present. Dr. Spencer Trotter read a paper entitled "Gems from Coues," drawing largely from the "Check List of North American Birds," "Birds of the Colorado Valley" and other works, the speaker revealed the many-sided and interesting character of the ornithologist, bringing to light many points of historical interest and others relating to bird nomenclature.

March 1, 1917. Nineteen members present. The following were elected to Associate Membership: C. M. Sangree, Dr. E. C. Day, Prof. H. H. Beck, Dr. G. B. Wood and Mr. C. Hassold. The following to Corresponding Membership: George MacReynolds, F. Ottenmiller, Severn Regar, S. S. Dickey and T. D. Burleigh. The following to Active Membership: Dr. C. E. Ehinger. Dr. Witmer Stone addressed the meeting upon the subject, "A Symposium on the Evening Grosbeak." The speaker reviewed the status of the species from the time of the earliest reference on the date of Jan. 10, 1825, down to the present day. Particular stress was placed upon the present abundance of the species.

March 15, 1917. Eighteen members present. Dr. Samuel Palmer made a communication entitled "Some Remarks on the Pygopodes." The structural characteristics of the several genera comprised under the group were described. Interesting facts pertaining to distribution were presented.

April 5, 1917. One visitor and thirteen members present. Mr. George H. Hallett, Jr., presented a subject entitled "The Morning Awakening of Birds." The speaker offered a great amount of data relating to this particular phase of bird study and advanced the opinion that temperature had a greater influence upon the morning awakening songs of birds than the relative amount of light.

April 19, 1917. One visitor and eighteen members present. The subject "Days on the Potomac" was presented by Messrs. George Spencer Morris, Arthur C. Emlen and Samuel Mason, Jr. The district described was in the vicinity of Brook

Station, Stafford Co., Va. Ninety-two species of birds were observed. The Yellow-throated Warbler, Summer Tanager, Wild Turkey and Brown-headed Nuthatch were particularly mentioned.

May 3, 1917. Twenty-six members present. Dr. William E. Hughes addressed the members upon the subject, "Some Impressions of Japan and Its Birds." The talk was illustrated by an excellent series of lantern slides depicting the manners and customs of the people. Interesting slides illustrating the fishing of Cormorants were shown.

May 17, 1917. Five visitors and sixteen members present. Mr. J. Fletcher Street addressed the meeting upon "Birds of Central Canada," describing a trip taken during September and October of 1916 in the district immediately northeast of Montreal in the foothills of the Laurentian Mountains. The birds observed included the Saw-whet Owl, Arctic Three-toed Woodpecker and the Raven.

Oct. 4, 1917. Nineteen members present. The subject "Remarks on the Fall Plumage of Birds" was introduced by Mr. Morris; Dr. Stone, and Messrs. Baily and Rhoads followed with comments. The marked similarity of fall plumages was shown by specimens to be particularly striking in certain warblers and to a greater or less degree among the finches.

October 18, 1917. Six visitors and twenty-one members present. Mr. Samuel Scoville, Jr., addressed the Club upon the subject "On the Trail of the Tennessee Warbler." The speaker described a trip taken during June of the present year to northeast New Brunswick in company with Mr. George H. Stuart, 3rd. as the guests of Philip B. Philipp. A remarkable and unusual list of birds was obtained. The following species were found to be nesting: Tennessee Warbler, Myrtle Warbler, Bay-breasted Warbler, Red-breasted Merganser, Piping Plover, Wilson's Snipe, Olive-backed Thrush and Hudsonian Chickadee. Mr. Philipp was present at the meeting and followed Mr. Scoville with some further description of the country.

Nov. 1, 1917. Twenty-four members present. The following were elected to Associate Membership: Mr. Francis L. Bacon, John W. Schell, J. Franklin Styer, J. H. McKinnon Ellis and Conrad K. Roland. Mr. P. B. Philipp was elected to Corresponding Membership. Dr. Witmer Stone read a paper by Richard C. Harlow entitled "The Breeding Birds of New Jersey and Pennsylvania." Valuable data compiled during many years of collecting in the two states was presented. Some of the rarer birds found nesting included the Pied-billed Grebe, Loon, Black Rail, Wild Turkey, Raven, Nashville and Mourning Warblers.

Nov. 15, 1917. Nineteen members present. Mr. S. N. Rhoads spoke upon the subject "Some South Florida Experiences in 1917." The speaker commented upon a trip made to southern Florida in the late winter of 1916–17. The region visited was that about Miami and over the Keys to Key West.

Dec. 6, 1917. One visitor and nineteen members present. Messrs. Street and Stone made a report upon the recent session of the A. O. U. held at Cambridge, Mass. Dr. Stone read a biographical sketch of the life and ornithological activity of our late member, Mr. Samuel Wright. Dr. Stone reviewed the recent publication "Audubon the Naturalist" by Prof. Francis H. Herrick.

Dec. 20, 1917. One visitor and twenty-three members present. Mr. Samuel Scoville, Jr., spoke upon the subject "Marsh Dwellers," describing a trip made in company with Messrs. Stuart, Potter and Street to the vicinity of Newton, N. J. Nests of the Marsh Hawk and American Bittern were found. The Short-billed Marsh Wren was a common bird of the district.

Club Notes.

Sixteen meetings of the Club were held during the year, with an average attendance of twenty-one.

At the thirty-fifth stated meeting of the American Ornithologists' Union, held at Cambridge, Mass., November 13th to 15th, 1917, the following D. V. O. C. members were present: Henry W. Fowler, J. Fletcher Street, William L. Baily and Witmer Stone. Also W. DeW. Miller, Chas. H. Rogers and Alfred C. Redfield, of the Corresponding Members.

Three field trips were taken during the year, as follows:

February 22, 1917. The Washington Birthday Field Trip was conducted in the vicinity of New Lisbon, N. J., twenty-five members attending. American Crossbills, Redpolls and Evening Grosbeaks were noted. The Grosbeaks had wintered in the locality, having been seen previously on several occasions.

April 6, 1917. A Field Trip was taken on Good Friday about West Chester, Pa. The day was a cloudy one and windy. Thirty-six species of birds were noted, including the Pied-billed Grebe, Pipit and Mockingbird.

May 30, 1917. The Decoration Day Field Trip was attended by eight members and was taken along the Delaware River in the region extending from Taylor's Lane, N. J., to Camden. Eighty species of birds were noted. A Night Heron colony was visited. The Least Bittern and Black Tern were among the birds seen.

The D. V. O. C. has the following members in the National Service. The Secretary will be glad to learn of any omissions.

Henry Tucker, Major, Med. Res. Corps, Camp Jackson, Columbia, S. C.

David E. Harrower, 2nd Lieut., Field Artillery, France.

J. Harold Austin, 1st Lieut., Med. Res. Corps.

Charles S. Jack, 1st Lieut., Dental Corps, France.

Jesse E. Packer, Reconstruction Unit, France.

William E. Hughes, Capt., Med. Res. Corps.

Samuel Mason, Jr., Camp Meade.

Archie Benners, 1st Lieut., Marines.

William Pepper, Major, Med. Res. Corps, Camp Oglethorpe, Georgia.

Charles Buvinger, 1st Lieut., Med. Res. Corps.

Frank B. Eastman, Major, U. S. Infantry.

C. S. Silvester, Captain, U. S. Infantry.

Donald Sherrerd, Res. Officers Training Camp.

Richard C. Harlow, 2nd Lieut., Forestry Service.

Thomas D. Burleigh, Red Cross, France.

Richard L. Burdsall, Reconstruction Unit, France.

George Beatty, Jr., Naval Reserve, Phila. Navy Yard.

Lewis S. Byrom, U. S. Base Hospital 34, France.

George B. Wood, M. D., 1st Lieut., Med. Res. Corps.

Edward J. F. Marx, Captain, Battery B, 16th Field Artillery, Camp Greene, N. C.

Bibliography, 1917.

Papers Relating to the Birds of Pennsylvania, New Jersey and Delaware.

Bowdish, B. S. Interesting Winter Bird Records in Northern New Jersey. *Bird-Lore*, 1917, p. 149.

Brown, Nathan Clifford. The Evening Grosbeak at Lakewood, N. J. *The Auk*, 1917, p. 479.

Burleigh, Thos. D. The Hudsonian Chickadee (*Penthestes hudsonicus subsp.?*) in Lycoming Co., Pa. *The Auk*, 1917, p. 344.

Burns, F. L. The Schuylkill Heronries. *Bird-Lore*, 1917, pp. 197-199.

Campbell, J. D. A Day's Outing (at Bernardsville, N. J.). *Oologist*, 1917, p. 160.

Carter, Jas. B. Nesting of the Bachman's Sparrow in Southwestern Pennsylvania. *Oologist*, 1917, p. 22. (At Waynesburg, May 20, 1916, S. S. Dickey.)

Caskey, R. C. Evening Grosbeak at Moorestown, N. J. *Bird-Lore*, 1917, p. 94.

Chapman, F. M. Evening Grosbeak Records. Several flocks at Englewood, N. J., and 30-50 at Hammonton, N. J., March 11–April 22 (Mary P. Conkey). *Bird-Lore*, 1917, p. 148.

Coon, W. Edwin. A Note on the Barred Owl. *Bird-Lore*, 1917, p. 266.

Dickey, S. S. First Nesting of Bachman's Sparrow in Pennsylvania. *The Auk*, 1917, p. 212. (Same record as above.)

Farquhar, Arthur. Late Departure of the Tree and Bank Swallow. *Oologist*, 1917, p. 208. (October 13 and 20 on the lower Susquehanna River.)

HARLOW, R. C. Large Sets of the Barn Owl. *Oologist*, 1917, p. 33. (Tinicum, Pa., March 26, 1908. Eight eggs.)

—— My Day with the Sparrow Hawks. *Oologist*, 1917, p. 62.

—— Early Nesting of the Solitary Vireo in Penna. *Oologist*, 1917, p. 165.

HEACOCK, ESTHER. A Painted Bunting in Pennsylvania. *Bird-Lore*, 1917, p. 205. (Wyncote.)

HOFMAN, M. J. Eagles in Pennsylvania. *Oologist*, 1917, p. 11.

HUBER, WHARTON. Sooty Tern in New Jersey. *The Auk*, 1917, p. 206.

KENT, EDWARD G. The Cape May Warbler. *Bird-Lore*, 1917, p. 264. (Jersey City.)

KENWORTHY, E. M. Breeding of the Kentucky Warbler in Delaware. *Oologist*, 1917, p. 104.

LIPPINCOTT, JOS. W. The Barn Owl's Voice. *Bird-Lore*, 1917, p. 275.

MCCONNELL, THOS. L. Crow Roost near Boston, Pa. *The Auk*, 1917, p. 478.

MCDOWELL, R. W. The History of a Martin-House. *Bird-Lore*, 1917, p. 146.

MCMILLEN, T. E. Five Killdeer Eggs—Large Set. *Oologist*, 1917, p. 216. (June 9, 1917, Camden, N. J.)

MCREYNOLDS, GEORGE. A Pennsylvania Starling Roost. *The Auk*, 1917, p. 338.

MENGEL, G. HENRY. Evening Grosbeak at Birdsboro, Pa. *The Auk*, 1917, p. 340.

MILLER, RICHARD F. Late Ruby-crowned Kinglet in Pennsylvania. *Oologist*, 1917, p. 181.

MILLER, W. DEW. Breeding of the Canada Warbler in Northern New Jersey. *The Auk*, 1917, p. 214.

—— Rare Winter Visitants in the Vicinity of Plainfield, N. J. *The Auk*, 1917, p. 218.

MILLER, W. DEW. and ROGERS, C. H. Remarks on the Mid-May Census. *Wilson Bulletin*, p. 30, 1917. (Criticism of some N. J. records.)

MORRIS, GEO. S. Evening Grosbeaks at Cinnaminson, N. J. *The Auk*, 1917, p. 93.

MOSES, BERT M. Winter Boarders. *Bird-Lore*, 1917, p. 333-335. (At West Orange, N. J.)

PARKER, EMELINE K. Starlings at Carlisle, Pa. *Bird-Lore*, 1917, p. 148.

PAXSON, HENRY D. The Last of the Wild Pigeon in Bucks County, Pa. 8vo, pp. 1-18. 1917.

POTTER, JULIAN K. The Season. *Bird-Lore*, 1917, pp. 152, 210, 276, and 338.

SCOVILLE, SAML., JR. The Evening Grosbeak in Southern N. J. and Penna. *The Auk*, 1917, p. 210.

WALLACE, HARRIET E. Evening Grosbeak in Penna. *Bird-Lore*, 1917, p. 42.

WEISER, CHAS. S. A Belated Cuckoo Brood. *Oologist*, 1917, p. 206. (Sept. 10, 1917, York, Pa. Two eggs hatched on the 11th and 12th.)

Christmas Censuses. By numerous contributors. *Bird Lore*.

OFFICERS AND MEMBERS

OF THE

Delaware Valley Ornithological Club.

1918.

HENRY W. FOWLER, *President.*
GEORGE H. STUART, 3rd, *Vice-President.*
SAMUEL C. PALMER, *Treasurer,* Swarthmore, Pa.
J. FLETCHER STREET, *Secretary,* Beverly, N. J.

ACTIVE MEMBERS.

BAILY, WILLIAM L., Ardmore, Pa. ..... Founder
BROWN, STEWARDSON, 20 E. Penn St., Germantown, Phila. *1891
CARTER, JOHN D., Lansdowne, Del. Co., Pa. 1900
DEHAVEN, I. NORRIS, Ardmore, Pa. 1891
EHINGER, C. E., M. D., West Chester, Pa. 1909
EMLEN, ARTHUR C., Awbury, Germantown, Phila. 1897
FOWLER, HENRY W., Langhorne, Pa. 1894
HUGHES, CAPT. WM. E., M. D., 3954 Chestnut St., Phila. 1891
MOORE, ROBERT T., Haddonfield, N. J. 1897
MORRIS, GEO. SPENCER, Olney, Phila., Pa. ..... Founder.
PALMER, S. C., PH. D., Swarthmore College, Swarthmore, Pa. 1899
POTTER, JULIAN K., Sixth & Bailey Sts., Camden, N. J. 1911
REHN, JAMES A. G., 6033 Catherine St., Phila., Pa. 1899
RHOADS, SAMUEL N., Haddonfield, N. J. ..... Founder.
ROBERTS, WILLIAM E., 207 McKinley Ave., Lansdowne, Pa. 1901
SHRYOCK, WILLIAM A., 225 S. Sixth St., Phila., Pa. 1891
STONE, WITMER, SC. D., Academy of Natural Sciences, Phila.... Founder.
STREET, J. FLETCHER, Beverly, N. J. 1903
STUART, GEO. H., 3RD, Girard Trust Company, Phila., Pa. 1910
TROTTER, SPENCER, M. D., Swarthmore College, Del. Co., Pa.... Founder.
WEYGANDT, CORNELIUS, PH. D., Wissahickon Ave. below Frank St., Germantown, Phila. 1891

ASSOCIATE MEMBERS.

ADAMS, ROBERT, JR., Oak Lane P. O., Oak Lane, Phila. 1910
BACON, FRANCIS L., 236 Winona Ave., Germantown, Phila. 1917
BAIRD, DAVID G., Beverly, N. J. 1913

* Date indicates year of election to Club.

BALL, J. P., M. D., Frankford, Phila., Pa. 1910
BARTRAM, EDWIN B., 200 N. 3rd St., Phila., Pa. 1908
BEATTY, GEORGE, JR., Beverly, N. J. 1911
BECK, PROF. H. H., Franklin and Marshall College, Lancaster, Pa... 1917
BENNERS, LIEUT. ARCHIBALD, Ambler, Pa. 1913
BENNERS, GEORGE B., Ambler, Pa. 1913
BORNEMAN, HENRY S., 801 Franklin Bank Bldg., Phila., Pa. 1913
BRADFORD, R. R. PORTER, 146 W. Lehigh Ave., Phila., Pa. 1913
BROWN, GEORGE FARNUM, Girard Trust Company, Phila., Pa. 1916
BURDSALL, RICHARD L., Swarthmore, Pa. 1916
BYROM, LEWIS S., 127 W. Susquehanna Ave., Phila. 1909
COOKE, GEORGE J., Ambler, Pa. 1916
COPE, FRANCIS R., JR., E. Washington Lane, Germantown, Phila... 1895
CULVER, DELOS E., Addingham, Pa. 1913
ELLIS, J. M. MACKINNON, Swarthmore, Pa. 1917
ERSKINE, RICHARD, Wenonah, N. J. 1916
ESSICK, WILLIAM S., Union Trust Co. Bldg., Harrisburg, Pa. 1908
EVANS, JOSEPH S., Marlton, N. J. 1913
EVANS, WILLIAM B., Moorestown, N. J. 1898
FORSYTH, GEORGE, Route 4, R. F. D., West Chester, Pa. 1891
FOSTER, FRANK B., Haverford, Pa. 1912
FUGUET, STEPHEN, 1027 Spruce St., Phila. 1911
HAGAR, ARTHUR F., 525 Westview Ave., Germantown, Phila. 1906
HAINES, SAMUEL S., M. D., 124 E. Main St., Moorestown, N. J..... 1901
HALLETT, GEORGE H., JR., 199 Owens Ave., Lansdowne, Pa. 1911
HARROWER, LIEUT. DAVID E., Girard College, Phila., Pa. 1905
HARROWER, HAROLD, Swarthmore, Pa. 1914
HASSOLD, CARL, 107 Gowan Ave., Mt. Airy, Pa. 1917
HILL, THOMAS R., 409 Chestnut St., Phila..... 1908
HOWARD, PHILIP E., Haverford College, Haverford, Pa. 1914
HUBER, WHARTON, Gwynned Valley, Pa. 1916
IRWIN, EVERETT P., 1010 Clinton St., Phila., Pa. 1915
JUSTICE, WILLIAM W., JR., 7803 St. Martins Lane, Chestnut Hill.. 1893
JACK, CHARLES S., D. D. S., Media, Pa. 1906
KITE, NATHAN, Moylan, Pa. 1898
KUSER, JOHN DRYDEN, Bernardsville, N. J. 1911
LEWIS, SHIPPEN, 1820 Pine St., Phila., Pa. 1912
LINTON, M. ALBERT, 409 Chestnut St., Phila., Pa. 1905
LODGE, JOSEPH B., 3340 N. 16th St., Phila., Pa. 1900
LONGNECKER, PARKE L., D. D. S., 2015 Chestnut St., Phila., Pa. ... 1910
MCCADDEN, DAVID N., 5039 Osage Ave., Phila., Pa. 1892
MCCALL, WILLIAM W., JR., 4056 Chestnut St., Phila., Pa. 1915
MCMURTRIE, RICHARD C., 300 W. Highland Ave., Chestnut Hill 1904
MASON, SAMUEL, JR., 522 Locust Ave., Germantown, Phila., Pa. ... 1913
MERCER, E. LEROY, M. D., Swarthmore, Pa. 1916
MERCUR, JAMES WATTS, JR., Wallingford, Pa. 1914

MEYERS, F. GUY, 908 Chestnut St., Phila., Pa. 1896
MILLER, ISAAC P., 409 Chestnut St., Phila., Pa. 1907
MILLER, RICHARD F., 2073 E. Tioga St., Phila., Pa. 1908
MITCHELL, DR. B. W., 4326 Pine St., Phila., Pa. 1914
MORRELL, WAYNE B., Duffryn Mawr, Pa. 1905
NORRIS, EDWARD, St. Martins, Chestnut Hill, Phila. 1914
NORRIS, J. PARKER, JR., 2120 Pine St., Phila., Pa. 1916
PACKER, JESSE E., M. D., Norwood, Pa. 1911
PARKER, HARRY E., Southampton, Pa. 1915
PEPPER, MAJOR WILLIAM, M. D., 1811 Spruce St., Phila. 1912
PLATT, CHARLES, 3RD, E. Graver's Lane, Germantown, Phila., Pa... 1912
PUMYEA, NELSON D. W., Mt. Holly, N. J. 1916
RIDDLE, ROBERT, 21 W. Rogers Ave., Merchantville, N. J. 1916
RIDDLE, S. EARL, Box 402, Chester, Pa. 1910
RHOADS, CHARLES J., Rittenhouse Sq., Phila., Pa..... 1914
ROBINSON, ANTHONY W., 409 Chestnut St., Phila., Pa. 1898
ROLAND, CONRAD K., 1208 DeKalb St., Norristown, Pa. 1917
SANGREE, CARL M., Haverford College, Haverford, Pa. 1917
SCHELL, JOHN W., Drexel Building, Phila., Pa. 1917
SCHEUING, WILLIAM B., 317 N. 63rd St., Phila., Pa. 1893
SCOVILLE, SAMUEL, JR., Pennsylvania Building, Phila., Pa. 1907
SELLIEZ, EDWARD A., Box 469, Phila., Pa. 1902
SERRILL, WILLIAM J., 1401 Arch St., Phila., Pa. 1891
SHERRERD, DONALD, 9 West Brown St., Princeton, N. J. 1913
SIBLEY, WALTER G., 6626 McCallum St., Germantown, Phila., Pa. .. 1900
SMITH, LOUIS IRVIN, JR., 3908 Chestnut St., Phila., Pa. 1901
SPENCER, THEODORE, JR., Haverford, Pa. 1916
STRANG, WILLIAM H., 277½ Chestnut St., Camden, N. J. 1899
STYER, J. FRANKLIN, Concordville, Pa. 1917
SUDDERS, JOSEPH D., Olney, Pa. 1910
TATNALL, SAMUEL A., 409 Chestnut St., Phila., Pa. 1910
TATUM, JOSEPH W., Audubon, N. J. 1892
TOMLIN, F. H., D. D. S., Haddonfield, N. J. 1909
TROTTER, WILLIAM H., Chestnut Hill, Phila., Pa. 1899
TUCKER, MAJOR HENRY, M. D., 2000 Pine Street, Phila., Pa. 1906
VOELKER, CHARLES A., Aldan, Delaware Co., Pa. ..... Founder.
VOSBURG, PAUL, Franklin Bank Bldg., Phila., Pa. 1905
WHEELER, PROF. A. L., Bryn Mawr, Pa. 1905
WHITAKER, ALBERT, Cedar Grove, Frankford, Phila., Pa. 1896
WHITAKER, JAMES L., Cedar Grove, Frankford, Phila., Pa. 1904
WILDMAN, EDWARD L., 4331 Osage Avenue, Phila., Pa. 1914
WOOD, LIEUT. GEORGE B., M. D., 129 S. 18th St., Phila., Pa. 1917
WOOLMAN, EDWARD, Haverford, Pa. 1915
WOOLMAN, EDWARD W., 44 N. 38th St., Phila., Pa. 1902

HONORARY MEMBER.

ABBOTT, WILLIAM LOUIS, M. D., Aldine Hotel, Phila., Pa. 1912

CORRESPONDING MEMBERS.

AUSTIN, LIEUT. J. HAROLD, M. D., New York City 1903
BAKER, CHARLES H., Verona, Allegheny Co., Pa. 1900
BAYNARD, O. E., Clearwater, Fla. 1911
BEANS, THOMAS J., Moorestown, N. J. 1895
BEHR, HERMAN, Lansdale, Pa. 1897
BEHR, OTTO, Lopez, Sullivan Co., Pa. 1897
BOWDISH, B. S., Demarest, N. J. 1913
BULLER, W. H., Marietta, Lancaster Co., Pa. 1895
BURLEIGH, THOMAS D., 825 Negley Ave., Pittsburgh, Pa. 1917
BUVINGER, LIEUT. CHARLES W., M. D., Newark, N. J. 1900
COGGINS, HERBERT L., 463 14th St., Oakland, Cal. 1897
COLE, STIRLING W., Cape May Court House, N. J. 1904
CRESSON, WILLIAM J., Box 249, Pittsburgh, Pa. 1899
DICKEY, SAMUEL S., Waynesburg, Pa. 1917
EASTMAN, MAJOR F. B., U. S. A., Ft. Leavenworth, Kas. 1898
FARR, MARCUS S., Princeton, N. J. 1901
FRY, HENRY J., Mt. Vernon, N. Y. 1915
GITHENS, ALFRED M., New York City, N. Y. 1895
GRAHAM, HARRY L., Redlands, Cal. 1897
GROSH, ALLEN H., Washington, D. C. 1900
HAND, H. WALKER, 1002 Washington St., Cape May, N. J. 1900
HANNUM, WM. E., 1 Holderness St., Atlanta, Ga. 1901
HARLOW, LIEUT. RICHARD C., State College, Pa. 1904
HUNT, CHRESWELL J., Oak Park, Ill. 1902
JACKSON, THOMAS H., West Chester, Pa. 1895
JACOBS, J. WARREN, Waynesburg, Greene Co., Pa. 1895
KEIM, THOMAS D., Steelton, N. J. 1902
KESTER, RAYMOND, Williamsport, Pa. 1892
LADD, SAMUEL B., Reading, Pa. 1895
LIEBELSPERGER, W. H., Fleetwood, Pa. 1913
LORRILLIERE, PAUL L., Baltimore, Md. 1904
MCREYNOLDS, GEORGE, Doylestown, Pa. 1917
MARX, CAPT. EDW. J. F., Easton, Pa. 1909
MILLER, WALDRON DEW., Plainfield, N. J. 1900
OTTENMILLER, F., York, Pa. 1917
PANGBURN, CLIFFORD H., New Haven, Conn. 1916
PEARSON, LEONARD S., Baltimore, Md. 1908
PEET, MAX M., M. D., Ann Arbor, Mich. 1913
PENNELL, HOWARD Y., M. D., Downington, Pa. 1894
PHILIPP, P. B., 220 Broadway, New York City 1917
PHILLIPS, A. H., Princeton, N. J. 1895
POOLE, EARL L., Reading, Pa. 1910

REDFIELD, ALFRED C., Cambridge, Mass. 1908
REGAR, H. SEVERN, Norristown, Pa. 1917
RODDY, H. JUSTIN, State Normal School, Millersville, Pa. 1895
ROGERS, CHAS. H., American Museum Natural History, New York.. 1905
SHARPLES, ROBERT P., West Chester, Pa. 1906
SILVESTER, CAPTAIN C. F., Princeton, N. J. 1901
SIMPSON, R. B., Warren, Warren Co., Pa. 1907
SORENSEN, FREDERICK, Chalmersgarten, Gothenburg, Sweden 1900
SPAETH, REYNOLD A., New Haven, Conn. 1901
STACK, FREDERICK W., Doubleday, Page & Co., New York City.... 1905
STONE, HUGH E., Coatesville, Pa. 1895
SURFACE, H. A., Harrisburg, Pa. 1900
TODD, W. E. CLYDE, Carnegie Museum, Pittsburgh, Pa. 1895
WARRINGTON, HENRY, San Francisco, Cal. 1896
WHITAKER, WILLIAM L., Ada, Okla. 1893
WISLER, J. JAY, Columbia, Pa. 1904
YOUNG, ROBERT T., PH. D., State University, N. Dakota..... 1892

DECEASED MEMBERS.

	Died.
BROWN, JOHN FARNUM, Active Member	May 13, 1894
BUSH, WALTER D., Corresponding Member	Aug. 11, 1904
CRISPIN, WILLIAM B., Corresponding Member	May 9, 1913
DETWILER, JOHN W., M. D., Corresponding Member	Sept. 26, 1898
EVANS, ERNEST M., Associate Member	June 29, 1911
GRIFFITHS, BARTRAM W., Associate Member	Dec. 21, 1916
HALES, HENRY T., Corresponding Member	Nov. 6, 1913
HOLMES, LARUE K., Corresponding Member	May 10, 1900
HOOPES, JOSIAH, Corresponding Member	Jan. 16, 1904
KOCH, AUGUST, Corresponding Member	Feb. 15, 1907
MOORE, GILBERT H., Associate Member	May 28, 1899
ONDERDONK, ELMER, Associate Member	Sept. 4, 1913
OWEN, FREDERICK N., Associate Member	Dec. 27, 1905
NEWBOLD, WILLIAM HENRY, Associate Member	May 25, 1917
PATTERSON, WILLIAM, Corresponding Member	Aug. 27, 1900
PENNOCK, CHAS. J., Active Member (disappeared)	May 15, 1913
RAUB, M. W., M. D., Corresponding Member	Aug. 8, 1914
RAWLE, FRANCIS W., Associate Member	June 12, 1911
SEISS, C. FEW, Corresponding Member	Sept. 5, 1915
SHEPPARD, EDWIN, Corresponding Member	April 7, 1904
SMITH, WILLIAM W., Associate Member	July 3, 1892
WELLES, CHARLES S., Associate Member	Feb. 24, 1914
WERNER, WILLIAM H., Corresponding Member	May 13, 1912
WOODHOUSE, SAMUEL W., M. D., Honorary Member	Oct. 23, 1904
WRIGHT, SAMUEL, Active Member	Jan. 18, 1917
WINDLE, FRANCIS, Associate Member	Feb. 24, 1917

INDEX TO SPECIES

Every mention of a bird, either by common or technical name, *except* in the Migration Report, is indexed under the current technical name of the species.

Acanthis linaria linaria, 63
Accipiter cooperi, 8
velox, 8
Actitis macularia, 7
Aegialitis meloda, 61
Aegelaius phoeniceus phoeniceus, 15, 17
Aix sponsa, 6
Ammodramus savannarum australis, 3, 16
Anthus rubescens, 63
Antrostomus vociferus vociferus, 11
Archilochus colubris, 10, 11, 12
Ardea herodias herodias, 7
Astragalinus tristis tristis, 16, 28

Bombycilla cedrorum, 18
Bonasa umbellus umbellus, 7, 8
Botaurus lentiginosus, 62
Bubo virginianus virginianus, 8, 27
Buteo lineatus lineatus, 8
Buteo platypterus, 8, 26
Butorides virescens virescens, 7

Cardinalis cardinalis cardinalis, 33
Carpodacus purpureus purpureus, 16, 28
Cathartes aura septentrionalis, 8, 26
Certhia familiaris americana, 22, 27
Ceryle alcyon, 10
Chaetura pelagica, 12
Chordeiles virginianus virginianus, 11
Circus hudsonius, 8, 9
Cistothorus stellaris, 62
Coccyzus americanus americanus, 10
Coccyzus erythrophthalmus, 10
Colaptes auratus luteus, 10, 15
Colinus virginianus virginianus, 7
Compsothlypis americana usneae, 20
Corvus brachyrhynchos brachyrhynchos, 14
corax principalis, 61
Creciscus jamaicensis, 62
Cryptoglaux acadica acadica, 61
Cyanocitta cristata cristata, 14

Dendroica æstiva æstiva, 20
cærulescens cærulescens, 20
castanea, 61
coronata, 26, 61
discolor, 3
dominica dominica, 61
fusca, 21, 23
magnolia, 20
pensylvanica, 20
vigorsi, 3, 21
virens, 21
Dryobates pubescens medianus, 10, 26
villosus villosus, 10, 26
Dumetella carolinensis, 22

Empidonax trailli alnorum, 13, 14
flaviventris, 14, 17, 25
minimus, 13
virescens, 12, 13, 14
Gallinago delicata, 61
Gavia immer, 62
Gelochelidon nilotica, 59
Geothlypis trichas trichas, 21
Guiraca cærulea cærulea, 28

Hæmatopus palliatus, 59
Helmitheros vermivorus, 19
Helodromas solitarius solitarius, 7
Herodias egretta, 7
Hesperiphona vespertina vespertina, 26–37, 63
Hirundo erythrogastra, 18
Hydrochelidon nigra surinamensis, 63
Hylocichla fuscescens fuscescens, 23
guttata pallasi, 41
mustelina, 23, 24
ustulata swainsoni, 14, 24

Icteria virens virens, 22, 25
Icterus galbula, 15
spurius, 15
Iridoprocne bicolor, 18
Ixobrychus exilis, 63

Junco hyemalis hyemalis, 14, 17, 26

Lanivireo flavifrons, 19
solitarius solitarius, 19

Loxia curvirostra minor, 16, 63

Meleagris gallopavo silvestris, 61
Melospiza georgiana, 17
melodia melodia, 17, 27
Mergus serrator, 61
Mimus polyglottos polyglottos, 63
Mniotilta varia, 19
Molothrus ater ater, 14
Myiarchus crinitus, 12, 25
Myiochanes virens, 12, 14

Nannus hiemalis hiemalis, 22
Nuttallornis borealis, 12, 25
Nycticorax nycticorax naevius, 7, 63

Oporornis philadelphia, 62
Otocoris alpestris praticola, 14, 25
Otus asio asio, 8
Oxyechus vociferus, 7

Pandion haliaetus carolinensis, 8
Passer domesticus domesticus, 16, 27, 30
Passerculus sandwichensis savanna, 16
Passerherbulus henslowi henslowi, 16
Passerina cyanea, 18, 28
Penthestes atricapillus atricapillus, 6, 22
carolinensis carolinensis, 26
hudsonicus littoralis, 23, 25
Petrochelidon lunifrons lunifrons, 18
Phasianus torquatus, 7, 8
Philohela minor, 7, 11
Phlœotomus pileatus abieticola, 10
Picoides arcticus, 61
Pinicola enucleator leucura, 28
Pipilo erythrophthalmus erythrophthalmus, 17
Piranga erythromelas, 18
rubra rubra, 61
Planesticus migratorius migratorius, 24, 30
Podilymbus podiceps, 62, 63
Pœcetes gramineus gramineus, 16
Progne subis subis, 18

Quiscalus quiscula quiscula, 15

Regulus satrapa satrapa, 23, 26
Riparia riparia, 18

Sayornis phoebe, 12
Seiurus aurocapillus, 21
motacilla, 21
noveboracensis, 21
Setophaga ruticilla, 22
Sialia sialis sialis, 24
Sitta canadensis, 22
carolinensis carolinensis, 22
pusilla, 61
Sphyrapicus varius varius, 10, 25
Spizella monticola monticola, 26
passerina passerina, 17, 19
pusilla pusilla, 17
Stelgidopteryx serripennis, 18
Strix varia varia, 8, 27
Sturnella magna magna, 15

Thryothorus ludovicianus ludovicianus, 22
Toxostoma rufum, 22
Troglodytes aëdon aëdon, 22
Tyrannus tyrannus, 12

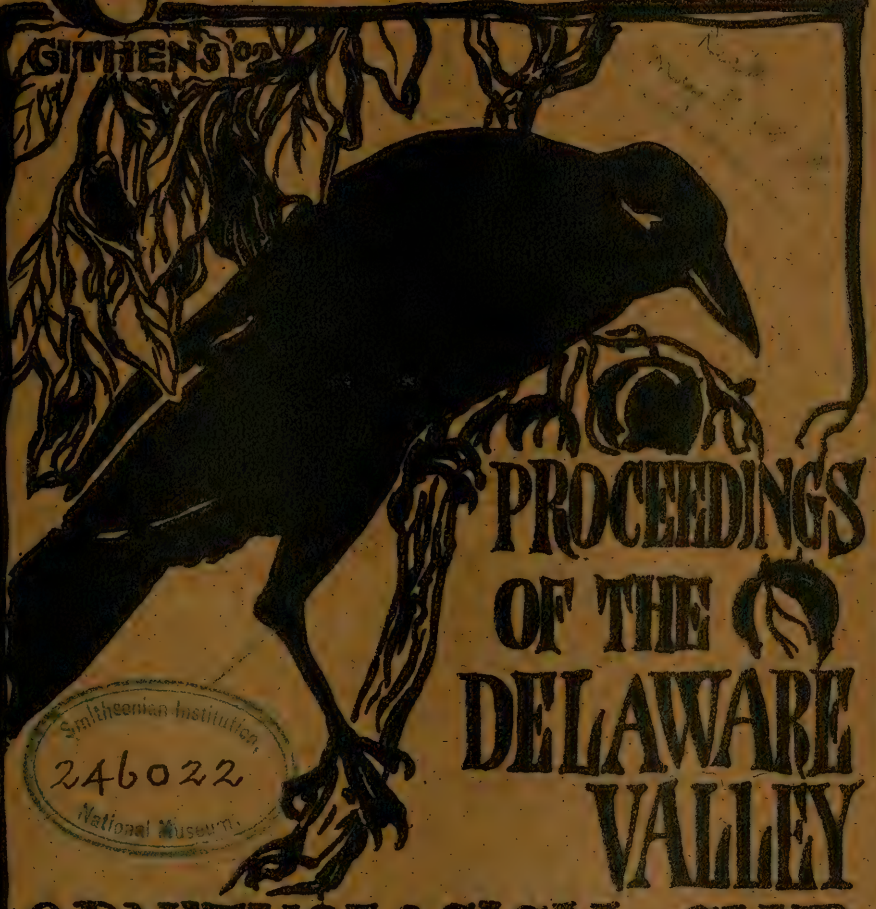
Vermivora chrysoptera, 19
peregrina, 61
rubricapilla rubricapilla, 14, 19
Vireo griseus griseus, 18
Vireosylva olivacea, 19

Wilsonia canadensis, 22

Zamelodia ludoviciana, 18
melanocephala, 37
Zenaidura macroura carolinensis, 8
Zonotrichia albicollis, 14, 16, 17, 27

CASSINIA

A·BIRD·ANNUAL



Smithsonian Institution,
246022
National Museum.

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB OF PHILADELPHIA

1918

ISSUED APRIL, 1919

CASSINIA

An Annual Devoted to the Ornithology of Pennsylvania, New Jersey, and Delaware

CONTENTS 1918

		PAGE
Cassinia	WITMER STONE	1
The Birthplace of John Cassin (*Frontispiece*)	F. H. SHELTON	3
Hesselius on the Natural History of Delaware		6
Activities of the D. V. O. C.		19
Report on the Spring Migration of 1918	WITMER STONE	22
Abstract of the Proceedings of the Delaware Valley Ornithological Club for 1918	J. FLETCHER STREET	38
Club Notes		42
Bibliography, 1918		45
List of Officers and Members of the D. V. O. C., 1919		48

PUBLICATIONS OF THE D. V. O. C.

The Birds of Eastern Pennsylvania and New Jersey, by Witmer Stone, pp. 176 with two maps and portrait of Alex. Wilson. One Dollar and a half. (Post paid, $1.62)

Abstract of Proceedings, Full Set Nos. I–IV. (1890–1900) pp. 98, Fifty cents

Cassinia, published annually beginning with 1901; comprising papers relating to the Ornithology of Pennsylvania, New Jersey and Delaware, and an abstract of the proceedings of the Club. Edited beginning with No. XX, 1916, by Spencer Trotter. Subscription price Fifty cents

Back numbers of most issues still obtainable at subscription prices.

Address **Delaware Valley Ornithological Club,**
Care **Academy of Natural Sciences,**
Logan Square, Philadelphia.

Contributed articles, books, and all publications should be sent to Dr. Spencer Trotter, Swarthmore College, Swarthmore, Pa.

Publication Committee
GEORGE SPENCER MORRIS, *Chairman*,
SAMUEL C. PALMER, WITMER STONE, SPENCER TROTTER.

PHOTOGRAPH BY F. H. SHELTON.

BIRTHPLACE OF JOHN CASSIN.

CASSINIA

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB

No. XXII. PHILADELPHIA, PA. 1918.

Cassinia.

SINCE the biography of John Cassin was published in the first issue of this journal several additional items of interest regarding the man have come to our knowledge. Dr. Coues' eloquent tribute to Cassin which was published in "The Condor" shortly after our sketch appeared, was republished in CASSINIA for 1902 and we now present some additional matter which has accumulated in the meantime.

In looking over the roll of students of the Friends' Boarding School at Westtown, Chester County, Pennsylvania, we found that Cassin had received his early education there, a fact that was referred to in the biography of John K. Townsend, in CASSINIA for 1903. It is now our good fortune to have before us a copy of Dr. Darlington's classic "Florula Cestrica," which belonged to Cassin and was used by him while a student at Westtown school. It is inscribed on the fly-leaf: "John Cassin's Florula Cestrica, Westtown School, 3rd. Mo. 12th., 1830." Further examination shows on the blank leaves at the end of the volume a list in Cassin's handwriting entitled "Appendix No. 2. Plants found by J. Cassin, not described in this book, 1830," with a further reference "See Eaton's Manual for further information." There is also a note at the bottom of the last printed page as follows: "J. Cassin examined during the season of 1830, 385 of the plants described in this Book."

Laid in the back of the copy there are two admirable pencil drawings of the flowers of the Tobacco and American Colombo both signed J. Cassin.

These memoranda are of particular interest as they show that at the age of seventeen he had attained a knowledge of Botany that we had no intimation of, while they further demonstrate that he possessed an interest in natural history at a much earlier period in life than one would infer from a study of his ornithological publications alone.

A far more interesting contribution to Cassin's biography, in-as-much as it corrects an error in our sketch of his life and throws light upon his ancestry has been generously contributed by my friend Frederic H. Shelton of Philadelphia and is presented herewith.—Witmer Stone.

The Birthplace of John Cassin.

In Ashmead's splendid "History of Delaware County" it is stated, page 674, that John Cassin was born "in Upper Providence," one of the twenty-one townships of the county. In a sketch of his life, appearing in the issue of "Cassinia" for 1901, it is stated that he was born "near Chester." As these two statements are in conflict, and as it is both historically desirable and humanly agreeable, to know the spot that was the birthplace of—and pleasantly associate it with,—this eminent early American ornithologist, the writer undertook this last summer (1918), to "run down" or locate the old Cassin homestead.

In 1848 there was published, by Dr. Joshua Ash, a map of Delaware County, showing almost every feature of it, and amongst other things the locations and land-holdings of most of the early landowners of the 1800's. This map is accepted as painstakingly and wonderfully correct. On it, in the extreme southeast corner of Concord township, appears a land-holding of Thomas Cassin. Nowhere else does the Cassin name appear, and in the literature, maps and histories of the county, no other data bearing on the birthplace of Cassin appear, other than as mentioned above.

A search among the deeds, however, in the Registrar's office at the county seat, Media, gives ample evidence to locate and establish the Cassin homestead for at any rate three generations.

From these deeds it is evident that three successive Cassins—the grandfather, Luke; Thomas, the father; and John, the son, the ornithologist, owned and lived on a forty-odd acre tract in Upper Providence township, about a mile north of the present borough of Media, and about a third of a mile south of the old "Rose Tree" inn, on the west side of Providence road, at the intersection of what is now the Cemetery road, and on the south side of that road; *i. e.*, the southwest corner. For the deeds

show that it came into the possession of Luke Cassin, farmer, April 10th, 1806, having been sold to him for four hundred and fifty pounds by Thomas Worrall. And that, on September 10th, 1830, Luke and Ann, his wife, for "natural love and affection" and the sum of $5.00, conveyed the tract to his son Thomas, also styled "farmer"—and all being rated as of Upper Providence,—reserving, however, four rooms for the use of himself and wife, wholesome food, suitable for a family, and keep in the style to which they were accustomed, and access, etc., for the rest of their natural life. And that, in turn, on January 15th, 1844, Thomas Cassin (this time rated as of Concord and thereby showing some land-holdings also in that township, and as evidenced by Ash's map as above mentioned) conveyed to his son John, also for "natural love and affection" *and* the sum of $2,600. Values had perhaps increased, and anyway John had removed to Philadelphia and become a merchant! And that, John Cassin, styled "merchant, of Philadelphia," and his wife Hannah, on April 2nd, 1846, conveyed the tract to one Daniel James for $3,025.

In Ashmead's history above named there are various lists of township officials and early school directors. In such lists for Upper Providence it is stated that Luke the grandfather was a Justice of the Peace in 1809; also that Thomas, the father of John, was a School Director in 1825 and a Justice of the Peace in 1838. All of which, and with the deed records quoted, clearly establish the family as resident on that tract in that township; owning the land and participating in the district government from 1806 to 1844 or '46.

John, the son, was born Sep't 6th, 1813. At the age of 20 he was one of the five men who started the Delaware County Institute of Science,—a small organization having a library, a museum, and regular meetings for the discussion of scientific things, etc. This first had headquarters in a small building at the present Sycamore Mills (then Bishop's Mills), and later in a building close to the Rose Tree, near the Cassin place, both in Upper Providence. In 1834 John Cassin removed to Philadelphia.

All of which leaves no room for further question as to where

the Cassin homestead was and but little question as to where the ornithologist was born.

On the Ash map, already referred to, the name of Daniel James appears as the owner of the tract, in 1848, after his purchase from Cassin four years before; and the present "oldest inhabitant" of that immediate neighborhood, Mr. E. E. Worrall,—a man now in his eighties, clear-headed, with faculties unimpaired—stated to the writer during this inquiry, that he had as a youngster often called at the James place, and knew it then as having shortly before been the Cassin place.

The house on it, as shown in the accompanying picture, taken November, 1918, is a frame structure, in contrast to the usual stone building of the early days. It is of no especial characteristic or feature; has evidently been somewhat altered and added to and ornamented with scroll-saw trims sometime in its life, and at present is in rather run-down condition. The fact that it, the house itself, is not marked on Ash's map, where other houses are, is quite clearly explained by the fact that the name "Upper Providence" in large letters appears across the face of the map on this township, and the "i" in "Providence" occurs where the house mark would be, and obliterates or covers it.

The location of the Cassin tract is on a main highway and much-traveled road and a post with suitable marking tablet thereon, reciting that this is the birth spot of the eminent early ornithologist, John Cassin, might with propriety be erected, and if so would be seen by many; and this number will steadily increase as this district becomes more populated.

F. H. Shelton.

Philadelphia, November 25th, 1918.

Observations of Andreas Hesselius on the Natural History of Delaware During the Years 1711-1724.

[The manuscript from which the following article has been printed was preserved among the ornithological papers of Charles J. Pennock presented to Dr. Witmer Stone by Mrs. Pennock for use in connection with the work of the Delaware Valley Ornithological Club. The following explanation accompanies it.

"Andreas Hesselius was a Swedish missionary sent over by his government to the Swedish settlement at Christina on the Delaware [now the city of Wilmington] in 1711. The manuscript account of his experiences was examined by the late Charles J. Stille, formerly president of the Historical Society of Pennsylvania, in the Royal Library at Stockholm, in the summer of 1888. Under his orders is was translated and the copy sent to the Historical Society. Here it was read by Albert Cook Myers, who, noticing the frequent references to Natural History which it contained, called my attention to it, and I have had the following extracts copied out. Reference to West India is frequently made, this being the early name applied to this whole region. To add to the interest and to give a little insight into the life and surroundings of the author the quotations have not been strictly limited to ornithology.—C. J. Pennock."]

June 23, 1711. I became unexpectedly commissioned by the royal government to go as a preacher to the Swedish parishes in West India. From the Royal Exchequer and also from the funds of the Custom Houses of divers places 2000 Daler silver coin were allowed me and my assistant curate, Mr. Abraham Lidelius, wherewith to defray the traveling expenses.

October 5. In Gottenberg we went on board an English ship called Judith, Captain Johan Hollen, where we, contrary to all

his good promises and our punctual payment for board and passage, had to endure all sorts of inconveniences for reason that nutriment and sustenance went short.

October 14. In the Northern Sea between Sweden and England we saw a kind of seabird big as a dove, following close up to the ship, swimming on assiduously and diligently hard on to the ship and again flying as if it wanted to be with us on the ship. It is of speckled feathers, white and darkish brown on the back, but wholly white under the breast, its bill is short and its feet are small, the wings short as is also the tail and its flight is alike the bat's.

October 30. Heavy gale and some wreckage in the English Channel. Smoked herring and West Gotha cheese our sole fare but with no bread for the whole of the six weeks we were in quarantine—no other sort of a drink did our Presbyterian Captain allow us but some foul water, though we paid for both ale and wine of which there were also supplies enough in the ship.

December 5. By land to Harwich. [In London until Feb. 11, the following year (1712), "abiding conveyance for the West India Journey."]

February 11, 1712. After having bid our friends in London farewell * * * together with a letter from Governor Penn to the Government in Pennsylvania. We went in a boat to our ship the "Patopsico Merchant," anchored in Gravesend, thither we arrived the following day and going on board there in the name of God we set out for the long West Indian voyage escorted by three Men of War besides more than forty merchant vessels.

March 5. Touched at island of Madeira.

March 13. Saw porpoises.

March 24. Under height of the pole 23 degrees, 21 minutes, I saw for the first time flying fishes on both sides of the ship.

March 25. * * * Did we see a rare bird called the Tropic Bird, from the reason that it is said never to be found anywhere else but under "The Tropics." It is big as a sea gull and wholly white, having for tail a long pen, looking most alike a lightened candle, its flight resembles most that of a falcon.

April 17. In the morning I saw a bird in the sea, in English

it is called the Ganet, but in Latin, Larus cinerus major; it is about as big as a goose but black on the end of the wings. This bird gives always hope that land will soon be visible as it is never to be seen far out at sea.

April 20. When it was Easter Sunday we saw land for the first time, namely North Carolina, that is a wooded land and sends out a sweet smell from the rare trees growing there. The whole woody seaside of North Carolina is uninhabited and uncultivated.

April 21. Saw Smith Island on the right hand side of the entrance to Virginia, not far from Cape Charles, which is the furthermost point on the mainland on that side of the bay. At 12 o'clock we did cast anchor for the first time.

After the midday meal at 2 o'clock we weighed anchor, parting from the convoys and under a good breeze went from Cape Henry and on up Chesapeake river, Pian Kitanck river, Rappatanock river west of us, but eastward Northampton and Arammaco land up to the Tanger Islands.

April 22. Some birds came to us flying out of the woods, by the Englishmen called Wren. Of those we caught one that permitted itself to be taken with the hands. It is a small, pretty and docile little bird, big as a siskin, with small innocent eyes; the breast is yellow but the back dark brown. The same day we sailed with a fair wind up the bay passing Potovinackie river, leaving Virginia and came farther and farther up toward Maryland, past Potuxen river on the left, but on the right hand side we had Dorchester land up to Heringe Bay where we anchored in the night. The country is nothing but a woodland everywhere and all over full of tobacco plantations.

April 23. While we were at anchor here I went ashore with the Captain, together with my brother, the portrait painter, Mr. Gustavus Hesselius, and sat there our feet in the name of Jesus for the first time on American soil. We had not been ashore before since we went aboard at Graveland in England on the twelfth of last February. We came thus up into a charming land and walked about one English mile from the water and saw with wonderment such riches in that country which are only sparingly or not at all to be found in our Northern countries.

The country is rising and hilly yet not stony, an abundance of delightful flowers and trees, as oak of four kinds, white, black, red, Spanish, Cedars, Dogwood trees, Apple and Cherry trees, Mulberry trees, Sycamore, etc., and all of them in their full blossoming splendor and fairness, spreading such a pleasant odor that we fancied we had come into Paradise. Birds of many species and most of them strange to us made the woods resounding with their chirping in every direction and filled the air with their several and peculiar crying so that no music could be more charming.

While we went about all by ourselves, I and my brother (as the Captain had gone to Colonel Sir Francois Holland) we were met by two Indians, nearly all naked, having only a wicked weapon over the shoulders and the body otherwise wholly bare and brown to the color, tall and stately in stature. At the first appearance of those savage men we became somewhat amazed, although they did not stop when meeting us, but said only "Haito," which is a sort of salutation corresponding to our "Good day," therewith making it evident that they are accustomed to Europeans. Soon thereafter a messenger from the Colonel came inviting us to the Manor, whereat we followed him and were very nicely entertained with eatable things, wine and cider. We partook thereof one to us unknown but very delicious fish called Rock by the English people, but by the Swedes in Pennsylvania it is called Swabt and in appearance as a large Rudd, but in taste as new pickled salmon. Aforementioned Colonel made us the pleasure to take us around the Manor, showing us various species, most especially of American singing birds, Redbirds, Mocking birds, etc., everyone of them of beautiful color but the one last mentioned to tune also, for it has not so much tune of its own but rather is imitating everything it heard. As to that bird it is remarkable that its handsome tones are never heard, nay, it does not even sing the least little bit of a song outside of America. When brought over to England it becomes instantly dumb though it is thriving there well enough and can live there for many years when other birds brought from East or West India nevertheless retain their original way of warbling whatever country they come to. The

Redbird is as big as a Starling, entirely vermillion red, having a red tuft of feathers on the head and a black spot below the beak, is highly esteemed for its singing and color.

The shore of Heringe Bay, as well as everywhere else in Maryland abounds in oysters that are bigger and wider than the hand of a tall man, delicious and rich and yet mostly eaten by the negroes. In the Colonel's house we saw a snow-white squirrel he had caught there in that region, besides a great many other rare animals and plants that presented themselves to our view just as if they wanted at our very first entry to bid us welcome to the new world. We could not more than marvel and think of what David says in Psalm 24, verse 1: "The earth is the Lord's and the fulness thereof, the world and they that dwell therein."

April 24. We on board the ship got for a present some American fishes called Shad, which is a kind of herring, but large and broad and fat as a Swedish Bream. We were also allowed to change our diet now by degrees and to relinquish our polves that we so often had been weary of on the ocean. Polve is a dish consisting of boiled chicken, rice and salted pork, but with no soup; it is a pleasing food if it is not served too frequently.

April 26. We did go ashore again to Anapolis, a small town in Maryland, which, however, is the only one in the whole Province.

April 28. We left our ship, the Potopsico Merchant, with our things and went in the long boat to Bohemia Landing.

May 1. We travelled the way by land from Bohemia over the woodland country to Christina in Pennsylvania, and arrived there in the evening, and in this way through the Lord's gracious guiding during one so long and hazardous journey we had in good health and uninjured completed our entire voyage from Sweden to the region we had in view. The total amount of miles from Lizard in England, where I began my reckoning, unto Christina in America is 5209 English miles.

May 10. I saw for the first time American Turtle Doves promenading on the river bank by two and two picking sand; they are much smaller than the European, bluish-gray in color,

and have a soft melancholic tone or cooing as the Englishmen call it. As soon as the sun has set in this country, happening here between seven and eight in the month of May, there appears every evening and all night in the summer a great many fire flies, as they are called, hovering in the air, both in the woods and in the field, nay, about the houses, too; they look like sparks of fire out of a chimney, causing a singular glistening in the dark. These mischievous insects are to appearance like the Spanish Flys, though the shell covering the wings is brown and they have their light below their small bodies that so to say is glistening every time they breathe. Between whiles it goes out, so if one wants to follow up such a fly by its flying, one will be sure to lose it in the dark and only find it again, at a guess, by means of the glistening.

May 16. I caught a ground squirrel or Ground hog, which is a kind of squirrel that makes its nest in the ground, is larger than a rat, and to color it is like a badger. It is very clumsy and awkward when it is to climb a tree and from that cause is easily caught.

May 19. I travelled to Philadelphia which is the capital of Pennsylvania and which is an exceedingly nice and beautiful City, about as large as Westeras [in Sweden] but with such regular streets and such magnificent houses that one must be astounded how from the year 1683, when it was founded, it has been possible to attain the riches and the splendor it now has.

May 23. Shortly after my return from Philadelphia did I find a tortoise in the woods adjacent to Christina; it was of the size of a fist. When caught it enclosed itself within its beautiful house, both with head, feet and tail, and in doing it a slight hissing was perceptible; every opening was so closely shut that it was beyond my power to break the shell open, not even by means of a knife. It does not venture a peep as long as it is being carried about nor afterward until thinking everything safe around it. This species of turtle is found only in the woods, but not anywhere else, and is used for food both by the Indians and Christians. According to my taste it has a delicious and subtle flavor, especially the liver prepared in the way used by the Indians who roast it in hot ashes it is most to my liking, though the method spoils the showy shell.

June 4. I shot a black Crow; the gray one does not exist in this country. In every other respect it resembles the Swedish Crows in their mischievous nature.

On the 6th, did I catch a rabbit that is a sort of a hare in this country as well as in England. They are hardly larger than a Coney and always brownish-gray in color both in summer and in winter; any other kind of hare is not found here.

On the 28 I saw a singular quadruped in this country called Opossum, of which the female one has two pouches called double-belly. In the outer pouch, that looks like a cloth bag, it protects and carries its young when there is danger ahead. This animal is bigger than a cat; it has a head like a pig's with long and sharp teeth. The hairs are long and light gray, mixed with silver color but the tail is long and bare as that of a mouse. When such an animal is found in the woods it does not run away, and the feet do not even permit any fast running, since the hind legs are like that of a fox, for that reason and from fear, it is lying down quietly, grinning and with closed eyes as if it was dead, arranging the long tail in a ring like a serpent. By means of a stick around which the tail proudly curls itself, one can afterward carry the animal on the back anywhere one may want to. In the night the Opossum has for wont to visit the hen-houses, and as it can climb both in trees and up a wall very well, although but slowly, it surprises the chickens quite unawares wherever they may be at roost. The Opossum is an animal so tenacious of life that though the hounds mangle it so that the bones crackle the creature for all that promenades away before next morning, a thing which I have to my greatest astonishment tried myself and have let large hounds loose upon it, but next day it has been found still to be in life.

July 19. I shot a stock pigeon, blue in color, like the French doves, but the breast is yellowish-brown, particularly the breast of one that is *she.* Their tone is entirely the Swedish Stock-pigeon's, the tail is long and pointed as on a magpie. In the autumn these birds are found in great and numberless multitude.

August 13. I shot two black squirrels that are more rare than such of the other species in this country, else there is generally of those creatures a large quantity, both of gray, light

gray and dark gray, all mischievous to the grains; for that reason the Government has enjoined on every householder to produce at every Court of Assize a certain number of squirrel heads, or pay fines to a fixed amount for each head wanting in the number.

August 14. I shot a pheasant which kind of bird is esteemed as one of the most delicate amongst wood birds; they are smaller in size than the European, but are slightly larger than our Hazel Grouse; in regard to the color they nearly resemble each other. Mostly they go two and two together and are sounded through the clapping of the wings when they sit upon a wind-fallen water-soaked log over a brook in the woods.

September 30. I partook for the first time of Wild Turkey. The forest turkey is the best amongst the game birds of America. They are blackish in color and larger than the domesticated ones. They are found in great numbers in the Autumn, particularly on the green shoots of the Autumn corn (Rye and Wheat) but mighty timorous they are. It was my most enjoyed pleasure, nevertheless, when out with my gun, if I have an opportunity to follow the Turkey at long distance, when they left the corn fields in the evening and then to note in what tree they went to roost at night, whereupon I went home to return later on in moonlight and could then walk straight up to the tree where they had nestled and feel right sure to be able that very night to shoot the whole lot, only I had a fellow hunter who would come to my assistance, as the birds do not go long distances at night, so that they, at the report of the gun, just only fly on to the tree nearest, until they are all shot.

October 17. I shot a Vulture. This is a large bird of prey, very much like a turkey; it has such a head as a turkey. The wattle, however, is not so big. It is such a stinking bird, since it feeds on carrion, that it cannot very well be handled, notwithstanding it is useful in medicine. Right through the beak there is a wide opening through which the daylight is seen and when a string is brought through this a person can in walking drag it along without being offended by the foul stench, and upon coming to the village it is fixed to a spit with the feathers on and all and thus allowed to roast by a good fire until the

fat is dripping. This is then collected to be kept and causes an incredible relief if rubbed in for dry aches, pains in the joints or in the back for gouty twinges.

November 6. I saw a flying squirrel. This creature is scarcely bigger than a good-sized rat, but is very pretty and soon tamed, has its nest in hollow oaks and flutters from one tree to another. It is steering by means of the tail which is flat, thin and broad. The wings consist only of a loose skin going from the body to the end of the claws of the fore feet. This is spread out in fluttering but is contracted and folded again when the animal wants to walk. In flight it always goes in curves. In this way it sets out from one tree and makes then constantly a curve toward the earth and thereupon quickly upwards again to the tree it had designed, though it be hundred ells from thence. It is gray-colored on the back but white beneath the belly.

July 13, 1713. Did I shoot a White-headed Eagle. This species of Eagle is the very biggest and is hardly to be found in other countries. In the London Tower I saw certainly one of this species but it had also come from America and was a peculiar rarity, presented to her Majesty, Queen Anna. This kind of an Eagle is grayish all over the body, but the head and the tail are wholly white, the eyes are yellow and the look is grim, otherwise it is not so very destroying, but when it can come at any water-fowl, such ones as are shooten by the common people, it comes forward and hovers about boldly, in order to secure its share.

November 25. I did for the first time see an American polecat, that the Swedes in Pennsylvania call Wild Cat. It is the most badly stinking animal amongst all kinds of quadrupeds. It has its haunts in the woods, but resorts in the nights toward the houses to steal hens. It is of the size of a young fox. The hairs are black except on the head, where on both sides of the eyes white stripes are running downward to the tail. It has small eyes and a short-legged body with an ugly, long-haired tail, more like that of a Lapp-dog than a cat's.

Wherever this animal goes it leaves behind a smell so intense as Spirit of Salt of Ammoniac of a power that it seems to be inveterate and just as if it was stagnant in the air over the spot

where the Wild Cat has passed. A person unacquainted with the nature of this animal is easily fooled by it, for as this cat is never in a hurry to shun human beings, one can go close up to it and when the Wild Cat considers the distance convenient, it stops for awhile, raising its tail in the air and fouling the person and bespattering him all over, though he be twenty or thirty steps away from the cat. This Spirit is so extreme that one may be choked and the troublesome balsam can afterwards in no wise be effaced of the clothes.

July 29, 1714. I caught a Golden-crested Wren in my garden. It is my belief that this bird is the prettiest and most diminutive among all flying animals clothed with feathers. In length it is not more than half a finger. It is golden-colored on the back but under the beak, that is long and pointed, the one that is *he* has an indescribable beauteous spot that is glistening like a sparkling, burning coal and is of a so vivacious and sprightly blush that I am sure it cannot by any painter be pictured by any color that is sufficiently high. This little bird builds its nest on the branches of the tallest oaks. It fastens there its mellow material and makes it like a small, silk purse, where it lays its eggs, in size resembling small white peas. By Englishmen it is called a Humming Bird, for the buzz caused by its little wings just alike a gad-fly. It feeds barely on the sweetish juice it draws out of lilies and other flowers; into those it nibbles with its long beak and tongue and in doing that it constantly flaps the wings, that it is something very rare to find it perching quietly.

February 18, 1715. We saw for the first time in that year the pretty little spring flowers, as for instance Hepatica nobilis, and several other species, both blue and white.

May 13. I made my first observation of the most peculiar insects I believe to exist the whole world over, which have not for fifteen years been seen in this country up to this year and in this month. In English it is called Locusts or Locustae, but it has absolutely no resemblance whatever to grasshoppers.

[After a two-page description of their transformation, he says:] When the heat is most intense in the day they resort in an enormous innumerableness to every tree, tuning like crickets so

fiercely and harshly that two persons can hardly make themselves heard by each other should they be close by them, in consequence of their screams and howl.

[He states that the Indians use them for food.] The squirrels have their plentiful nourishment by them. In the month of July their time is up when they gather in immense armies and crawl on the ground toward the nearest river and are off for the water to become food for the fishes.

If the visionary spirits of the Quakers here in Pennsylvania would with moderation contemplate the Lord's wonderful mightiness in regard to the emerging of those insects out of the ground they should never with such a pertinacity renounce the possibility of resurrection, by which they are making themselves the most noxious vermin in America.

August 11. I killed one of the most destroying Snakes in West India, that is called the Horned Snake. It is excessively big and thick, certainly five ells in length with white and black scales all over the body and in the tail is the point it makes use of in killing. It consists of a horny matter, is as sharp as the prickle of a hedgehog, but not more than half a finger in length. Beneath the belly it is orange-colored. The gap is terrible, though harmless. When it is infuriated it stretches the mouth so highly that it becomes disjointed and cannot be closed anymore. When it wants to sting it curls up in a ring and then just as if it were a spring it throws out its tail in a moment, reaching what it may. For such a sting there is no remedy, neither for human nor any other creature, death will soon follow upon it.

February 23, 1722. Was for the first time this year heard the little bird Vivi or Seri, so-called, which among all birds is the one that gives the first warning of the arrival of spring time. It is as small as a Siskin and grayish in color, always in appearance as if just dipped in water, perches generally alone on a roof or a chimney and begins in the morning with its chirping that is nothing else than a distinct expression of these words in Swedish: "Vet I? Vet I? Vet I? vi Vet." (Do you know? Do you know? Do you know? We do know.)

March 26, 1723. Did I shoot a Muskrat or as the Swedes

call it a Desman Rat, running in Christina river. This animal has it haunts in marshes on the river bank, where it, like the beaver has its holes and anfractuousnesses underneath. It feeds mostly on muscels and roots and is generally when water is at its lowest to be found upon the clayey mire, where it takes its repasts of a huge pile of oysters and mussels. During ebb it gathers its shell fishes from the river bottom and carries them on to land to be devoured in moments of leisure. It is as big as a cat of the grossest size, but much more bulky. In color it is like an otter. The hairs are however of a greater length. It is the one most enjoyable among hunts here in America to go a hunting those muskrats, for no sooner do they espy a person rowing in the river than they each and all of them run into the river where water bubbles arise to the surface and make known their whereabouts. There they crawl upon the bottom and because they cannot lengthily exist under the water they must needs up to the surface again for air's sake and the shooting is made. As soon as one is shot the two vascula where is contained the strong desman fat, must be cut out or the skin will take to itself too intense a smell that would not be pleasing to everybody and not make it of such usefulness, as otherwise is the case, for furs.

May 23. Numerous observations in particular of divers things and incidents, that could have occurred to me, I have nevertheless not thought of such an importance as to take them down in my journal for this year, for each day as they happened, partly for the reason that things have become that habitual to me from my long acquaintance to them, that I have not thought them worth the pain to put on paper; partly also because my domestic affairs and thoughts of my journey home to Sweden, whereupon I in the past year, November 11, 1722, received a legal summons from my Fatherland. All this has not allowed me to complete the description I had with all assiduity commenced upon American conditions in totality, concerning Christians as well as pagans, both in regard to the essentiality of religious, as also of politics and of economies, most particularly, however, do I bemoan that my collection in historia naturali, together with all my books and clothing, and a multi-

tude of rarities were destroyed by the swelling billows and the horrid gales I had to suffer between October 16 and November 29, when I and my family got into harbor at London, and as such a loss most especially and greviously is felt in moments when memory will not suffice to subministrate all the fresh and delightful ideas formerly perceived and in such a manner the nutriment of the mind becomes as it were congealed by the Northern frost, why, it is best for me to meditate upon bygone days with moderation and with a Christian resignation and gratitude to God and my gracious Government for the vocation where I am now placed in and rejoice only for every soul I can here win over to the Kingdom of God.

Activities of the D. V. O. C.

The Delaware Valley Ornithological Club was founded February 3, 1890, after several preliminary meetings; the first January meeting being now regarded as the anniversary meeting. The founders were: William L. Baily, George Spencer Morris, J. Harris Reed, Samuel N. Rhoads, Witmer Stone, Spencer Trotter and Charles A. Voelker.

Since 1891, through the courtesy of the Academy of Natural Sciences, the meetings have been held in Dr. Stone's rooms at the museum, Nineteenth and Race Streets. In return for this privilege the Club has collected and presented to the Academy a local collection of the birds, nests and eggs of Pennsylvania and New Jersey to which additions are always being made. The Club also does its utmost to advance the interests of the Academy, and its members whenever able to do so become members of the Academy. Meetings of the Club are held on the first and third Thursdays of each month from October to May (inclusive). These are open only to members and specially invited guests. Any man, or boy over fifteen years of age, interested in Ornithology and recommended in writing by a member, is eligible to Associate Membership, elections occurring at the first meetings of November and March; but not more than eight members may be elected in any one year.

From the Associates who show the most interest in the Club are chosen the Active Members who transact the business of the Club and from whom the officers are selected, they are limited to twenty with the addition of the ex-presidents. In order not to waste the time of the meeting with business details the Active Members hold a brief preliminary meeting so that the regular meeting, in which all members participate, may be entirely devoted to ornithology.

A stated communication is announced on the cards but notes and short communications are always in order and general discussion is welcomed.

The following members have served as president of the Club:

1890.	William L. Baily.
1891–2.	Witmer Stone.
1893–4.	George S. Morris.
1895–6.	William E. Hughes.
1897–8.	I. Norris De Haven.
1899–1900.	Charles J. Rhoads.
1901–3.	Charles J. Pennock.
1904–6.	Spencer Trotter.
1907–9.	William A. Shryock.
1910–12.	Samuel N. Rhoads.
1913–15.	Stewardson Brown.
1916–18.	Henry W. Fowler.

Since 1901 the Club has published an annual "CASSINIA," named after the famous Philadelphia ornithologist, John Cassin, which contains the proceedings of the meetings, migration reports and other matter relating to local ornithology. This is furnished free to Active and Associate Members and at 50 cents per number to others. Some of the early numbers are out of print and complete sets are difficult to secure.

A volume, "Birds of Eastern Pennsylvania and New Jersey," compiled by Witmer Stone, has also been published, and may be had at $1.50.

There are also four small pamphlets covering the early years of the Club's proceedings.

Blank schedules are furnished to members and others who will keep a record of the spring arrival of birds at their locality and these are returned in June and a combined report prepared which is published and issued to each observer early in the following year.

On Washington's Birthday, Good Friday and Decoration Day field trips are arranged for members of the Club only, to points in the neighborhood of the city, which are announced by card.

The object of the Club is to further the study of ornithology in its widest sense. It stands for the teaching of absolute accuracy in observation, believing it better not to publish at all

than to publish an error. It stands for the preservation of wild life but with fair license both to the bona-fide sportsman and the scientific collector for securing such game and specimens as do not threaten the extermination of species. It aims to advance our knowledge of wild bird life both by original observation and by the instruction of others, and to publish the results of its studies for the benefit of the public at cost price.

The underlying principles of the Club are good-fellowship and coöperation, and these have been we think the secret of its success.

About every four years the national ornithological association, "The American Ornithologists' Union," holds its annual session in Philadelphia, which brings a notable gathering of bird men to the Academy. Everyone interested in birds is free to attend the meetings. Members of the D. V. O. C. are eligible to Associate Membership in the A. O. U., the dues being $3.00 per year for which they receive the quarterly magazine, "The Auk," edited by Dr. Witmer Stone.

With "The Auk" and "CASSINIA" one can keep well posted on what is going on in ornithology throughout the world as well as in our immediate neighborhood.

Report on the Spring Migration of 1918.

COMPILED BY WITMER STONE.

FORTY-SEVEN schedules were returned by the D. V. O. C. Migration Corps for the season of 1918 as listed below. Additional observers are desired especially at stations within ten miles of Philadelphia. Names of competent observers and applications for blank schedules should be sent to Dr. Witmer Stone, Academy of Natural Sciences, Logan Square, Philadelphia.

New Jersey.

Cape May, H. W. Hand.
Atlantic City, Mrs. N. S. Cromie.
Vineland, Mrs. A. K. Prince.
Downstown, W. W. Fair.
Camden, J. K. Potter.
Audubon, J. W. Tatum.
Mt. Holly, N. D. W. Pumyea.
Beverly, D. G. Baird.
Beverly, J. F. Street.
Moorestown, Miss A. A. Mickle, S. S. Haines, M. A. Linton, Mrs. V. Wierman, Wm. B. Evans and Miss L. M. Jacob.
Rancocas, Miss E. Haines.
Allentown, Miss Emma Gordon.
Bordentown, Miss M. V. Flynn.

Pennsylvania.

Concordville, Miss E. P. and J. F. Styer.
Media, Miss L. G. Allen.
Moylan, Miss J. H. Binney.
Swarthmore, Samuel C. Palmer.
Addingham, D. E. Culver.
Ridley Park, R. L. Lloyd.
Lansdowne, J. D. Carter.
Lansdowne, G. H. Hallett, Jr.
Cobb's Creek Park, W. Phila., G. Gordon Mahey and E. P. Richardson.
Chestnut Hill, W. H. Trotter.
Germantown, Stewardson Brown.
Wayne, C. E. Alexander.
West Chester, R. P. Sharples.
West Chester, I. G. Roberts.
West Chester, Miss S. C. DeHaven.
West Chester, Mrs. H. P. Brinton.
West Chester, C. E. Ehinger.
West Chester, C. K. Hummelsbach.
Hatboro, Rev. A. Patman.
Three Tuns, Miss E. C. Cox.
Langhorne, H. W. Fowler.
Doylestown, G. MacReynolds.
Forest Grove, Miss A. K. Bewley.

Frankford, R. F. Miller.
Mt. Airy, S. H. and R. W. Barker.
Ardmore, W. L. Baily.
Haverford, W. J. Serrill.
Haverford, G. T. Scoville.
Haverford, Edward Woolman.
Buckingham, Miss E. C. Cox and Miss E. D. Broadhurst.
Collegeville, W. A. Kline.
Reading, E. L. Poole.
Lopez, Otto Behr.
Altoona, H. A. McGraw.

We would again urge study of the "suggestions" previously mailed* to all observers in order that each one may become familiar with the time at which the various species may be looked for. Records of rare species, or common species at unusually early dates, are ignored in the published summary unless some explanation is added showing that the observer is aware of the importance of his record. Kindly do not insert additional species on the front of the schedule as it adds to the task of the compiler which is in any case a laborious one. Write such species on the back according to instructions. We should also like to have as many separate schedules as possible. Please do not combine your report with that of another observer unless the work is actually done in company.

The season of 1918 was remarkable for the fact that we experienced the coldest weather for many years during January—unprecedented along the southern New Jersey coast, while in August we had the hottest temperature ever recorded in summer. Neither of these however seemed to have any appreciable effect on the migration.

The notable feature of the 1918 spring migration was the great scarcity of warblers and absence of the usual concentrated "waves." Arrival dates in the case of most species are consequently more scattered than usual. Figuring out the dates of "bulk arrival" in the usual way, we find that they average about two days late; some, where the departure from normal is greater, are obviously inaccurate because of the very insufficient data.

The earliest migrants—February and early March—were all a few days early, those of April and the first week of May several days late and those for the middle of May about normal.

* Copies to be had on application.

Name.	Rancocas, N. J. N. 4; E. 16.	Moorestown, N. J. N. 1; E. 12.	Camden, N. J. N. 0; E. 2.	Audubon, N. J. S. 4; E. 5.	Media, Pa. S. 2; W. 12.	Swarthmore, Pa. S. 3, W. 10.	Ridley Park, Pa. S. 5; W. 9.	Lansdowne, Pa. S. 1; W. 6.	Addingham, Pa. S. 1; W. 8.	Haverford and Ardmore, Pa. N. 4; W. 8.	Wayne, Pa. N. 6; W. 11.	Cobb's Creek, W. Phila. N. 0; W. 4.	Germantown, Phila. N. 6; W. 1.	Chestnut Hill, Phila. N. 8; W. 1.	Frankford, Phila. N. 5; E. 5.	Date of Bulk Arrival
Canada Goose	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	Mar.10	. . .	Apr.20	. . .	. . .	. . .	. .
Green Heron	May 11	May 3	Apr.20	May 13	. . .	May 4	May 16	May 9	. .	Apr.28	. . .	May 8	. . .	. . .	Apr.21	May 9
Night Heron	. .	May 3	Apr. 5	May 13	. .	May 10	Apr.28	. . .	. . .	Apr.21	. . .	. . .	Apr.17	. . .	Apr. 5	Apr.21
Spotted Sandpiper	May 11	May 3	Apr.25	Apr.25	. . .	Apr.27	May 26	. . .	May 11	Apr.28	. . .	. . .	. . .	. . .	. . .	Apr.28
Solitary Sandpiper	. . .	May 11	May 6	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Killdeer	Mar. 2	Mar. 6	Feb.16	. . .	. . .	Mar. 7	Mar.29	Mar. 6	. .	Mar.23	. . .	May 25	Apr. 7	. . .	Feb.24	Mar. 7
Dove	. . .	Mar.16	Mar.17	Apr. 7	Mar.31	Mar.18	Apr. 5	Mar. 9	Mar.16	Mar.22	Apr. 6	Mar.28	Mar.24	Mar.30	Mar.13	Mar.22
Osprey	. . .	May 5	Apr.30	May 14	.	. . .	. . .	. . .	Apr.14	Apr.13	. . .	. . .	May 19	. . .	Apr. 6	. . .
Turkey Vulture	Res.	Mar.16	Feb.12	Feb.18	Mar. 3	Mar.30	Apr.14	. . .	Mar.10	Feb.24	. . .	. . .	Mar.10	Mar.17	Mar.17	. . .
Yellow-billed Cuckoo	May 11	May 8	May 17	May 14	. . .	. . .	May 12	May 21	May 12	May 18	. . .	May 14	May 15	May 17	. . .	May 14
Black-billed Cuckoo	. .	. .	. .	. .	. . .	. . .	. . .	. .	. .	May 18	. . .	May 25	. . .	. . .	. . .	. .
Kingfisher	Apr.13	May 4	Jan.13	Apr.26	. . .	Jan.20	Apr.14	Apr.28	. . .	Mar.29	. . .	Mar.16	Mar.18	. . .	Apr.14	Apr. 7
Yellow-bellied Sapsucker	. . .	Apr. 3	Apr.30	. . .	. . .	.	. . .	. . .	. . .	. . .	. . .	Apr.24	Mar. 5	. . .	Mar.22	Mar.22
Red-headed Woodpecker	. . .	May 6	May 12	. . .	. . .	May 21	. . .	May 12	May 8	May 7	. . .	May 2	May 13	May 16	. . .	May 8
Flicker	Mar.19	Res.	Feb.22	Mar.24	Mar.19	Mar.19	Mar.24	Mar.13	Mar.16	Mar.10	May 17	Mar. 6	Mar.14	Mar.19	Mar.21	Mar.16
Whip-poor-will	Apr.25	May 8	. . .	. . .	. . .	Apr.23	. . .	Apr.30	. . .	. . .	. . .	May 6	. . .	May 5	. . .	Apr.30
Nighthawk	. . .	May 14	May 12	. . .	. . .	. . .	. . .	May 11	May 13	May 21	Mar. 2	May 23	. . .	. . .	. . .	May 13
Chimney Swift	Apr.26	Apr.19	Apr.28	Apr.23	Apr.26	Apr.28	Apr.25	Apr.28	Apr.22	Apr.21	May 11	Apr.23	May 5	Apr.25	. . .	Apr.25
Hummingbird	. . .	May 8	May 12	May 13	. . .	May 5	. . .	. . .	. . .	May 11	. . .	. . .	May 16	. . .	. . .	May 11
Kingbird	May 15	May 10	May 17	. . .	May 19	May 11	May 8	May 12	May 4	May 4	. . .	Apr.30	Apr.27	May 16	. . .	May 10
Crested Flycatcher	May 7	May 5	May 5	May 5	May 8	May 5	May 12	May 7	May 9	May 3	. . .	May 2	May 5	May 6	. . .	May 6
Phoebe	Apr. 6	Apr.28	Apr.18	Mar.24	. . .	Mar.23	Apr.14	Mar.24	Mar.17	Mar.10	Mar.18	Mar.28	Apr. 7	Mar.30	Mar.22	Mar.24

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Addingham, Pa.	Haverford and Ardmore, Pa.	Wayne, Pa.	Cobb's Creek, W. Phila.	Germantown.	Chestnut Hill.	Frankford, Phila.	Date of Bulk Arrival.
Wood Pewee	May 7	May 6	May 9	. . .	May 19	May 15	May 19	May 19	May 20	May 12	May 13	May 18	May 23	May 14	. . .	May 13
Acadian Flycatcher	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	May 12	. . .	. . .	May 19	. . .	. . .	. . .
Least Flycatcher	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	May 11	. . .	. . .	. . .	. . .
Bobolink	. . .	. . .	. . .	May 13	. . .	. . .	. . .	. . .	. . .	May 12	. . .	May 18	. . .	May 5	. . .	May 12
Cowbird	. . .	. . .	. . .	. . .	Mar. 31	Mar. 22	May 13	Mar. 28	May 4	Mar. 15	. . .	. . .	Apr. 21	. . .	Mar. 16	Mar. 28
Red-winged Blackbird	Feb. 26	Feb. 28	Feb. 24	Mar. 24	Mar. 22	Mar. 9	Apr. 28	Mar. 18	Mar. 6	Mar. 16	Mar. 1	Mar. 23	Mar. 10	. . .	Mar. 6	Mar. 6
Meadowlark	Res.	Res.	. .	. . .	Mar. 13	Jan. 25	Mar. 10	Mar. 6	. . .	Mar. 10	Mar. 15	Mar. 6	Feb. 27	. . .	Mar. 2	Mar. 10
Orchard Oriole	May 6	May 7	May 12	. . .	. . .	. . .	. . .	May 12	. . .	May 1	. . .	May 15	. . .	. . .	. . .	May 7
Baltimore Oriole	May 9	May 6	May 9	May 13	May 3	May 5	. . .	May 5	May 2	May 4	. . .	May 7	May 12	May 11	. . .	May 5
Rusty Blackbird	. . .	Apr. 30	Feb. 24	Apr. 7	. . .	. . .	. . .	. . .	. . .	Mar. 24	. . .	. . .	. . .	. . .	. . .	Mar. 24
Purple Grackle	Feb. 26	Feb. 20	Feb. 24	Mar. 17	Feb. 28	Feb. 28	Feb. 27	Feb. 27	Feb. 28	Feb. 20	Feb. 12	Feb. 28	Feb. 19	Mar. 2	Mar. 2	Feb. 27
Vesper Sparrow	Apr. 1	Apr. 1	Mar. 28	Mar. 24	. . .	Apr. 20	. . .	Mar. 24	Mar. 31	Mar. 23	. . .	Mar. 29	May 16	. . .	Mar. 8	Mar. 28
Savannah Sparrow	. . .	. . .	Mar. 31	Apr. 7	. . .	. . .	. . .	Apr. 14	. . .	Apr. 7	. . .	Apr. 4	. . .	Mar. 31	Mar. 24	. . .
Grasshopper Sparrow	May 7	May 5	. . .	Apr. 23	. . .	. . .	. . .	May 12	. . .	May 4	. . .	. . .	. . .	. . .	. . .	May 4
Chipping Sparrow	Mar. 30	Mar. 31	Apr. 6	Apr. 21	Apr. 14	Mar. 30	Apr. 18	Apr. 7	Apr. 15	Apr. 5	. . .	Apr. 3	May 16	Apr. 15	Apr. 6	Apr. 5
Field Sparrow	Mar. 30	Mar. 20	Mar. 17	Jan. 24	Mar. 22	Apr. 3	. . .	Apr. 7	. . .	Mar. 10	. . .	Mar. 18	May 24	May 30	Mar. 9	Mar. 20
Swamp Sparrow	May 2	Apr. 28	Jan. 27	Mar. 24	. . .	May 12	Jan. 20	. . .	. . .	Mar. 29	. . .	Apr. 2	. . .	. . .	Apr. 23	. . .
Fox Sparrow	. . .	Mar. 19	Mar. 2	. . .	Mar. 14	Mar. 3	Mar. 10	Feb. 23	. . .	Feb. 24	Feb. 28	Feb. 28	Mar. 17	Mar. 9	Mar. 1	Feb. 28
Chewink	Apr. 26	Apr. 19	Apr. 16	Apr. 25	Apr. 13	Apr. 23	Apr. 28	Apr. 30	Apr. 6	Apr. 20	Mar. 18	Mar. 30	May 5	May 1	Apr. 14	Mar. 19
Rose-breasted Grosbeak	May 7	May 11	May 8	May 19	. .	May 9	. . .	May 7	. . .	May 8	. . .	May 9	. . .	. . .	. . .	May 8
Indigobird	May 11	May 7	May 1	May 13	May 14	May 8	May 19	May 6	. . .	May 11	. . .	May 10	May 4	May 9	. . .	May 9
Scarlet Tanager	May 11	May 6	May 11	May 16	May 11	May 7	. . .	May 7	May 11	May 6	Mar. 14	May 9	May 12	May 9	. . .	May 9
Purple Martin	. . .	Apr. 16	. . .	May 13	. . .	. . .	. . .	. . .	. . .	. . .	. . .	May 2	. . .	. . .	. . .	. . .

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Addingham, Pa.	Haverford and Ardmore, Pa.	Wayne, Pa.	Cobb's Creek, W. Phila.	Germantown.	Chestnut Hill.	Frankford.	Date of Bulk Arrival.
Cliff Swallow	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	.	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Barn Swallow	Apr. 23	Apr. 30	May 1	Apr. 25	. . .	Apr. 23	. . .	Apr. 28	May 8	Apr. 27	. . .	May 1	May 11	. . .	Apr. 18	Apr. 27
Tree Swallow	May 11	May 5	Apr. 17	. . .	. . .	. . .	. . .	. . .	. . .	May 11	. . .	May 1	. . .	. . .	. . .	. . .
Bank Swallow	. . .	. . .	May 12	May 19	. . .	. . .	May 8	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Rough-winged Swallow	. . .	. . .	May 12	May 16	. . .	. . .	. . .	. . .	. . .	Apr. 28	. . .	. . .	. . .	. . .	. . .	. . .
Cedarbird	May 7	May 24	May 22	May 21	. . .	May 11		May 12	. . .	Apr. 14	. . .	May 3	Mar. 5	. . .	. . .	. . .
Red-eyed Vireo	May 7	May 7	May 11	. . .	. . .	May 11	. . .	May 7	May 11	May 8	. . .	May 9	May 15	May 6	. . .	May 7
Warbling Vireo	May 9	May 2	. .	. . .	. . .	May 21	May 4	May 21	. . .	May 6	. . .	May 11	May 15	. . .	. . .	May 9
Yellow-throated Vireo	. . .	May 8	. . .	. . .		. . .	. . .	May 8	. . .	May 8	. . .	May 7	May 14	May 8	. . .	May 8
Solitary Vireo	. . .	. . .	May 5	. . .	. . .	May 4	. . .	. . .	. . .	May 3	. . .	May 11	. . .	. . .	. . .	May 5
White-eyed Vireo	May 3	May 3	May 12	. . .	. . .	. . .	May 12	May 12	. . .	May 5	. . .	. . .	. . .	. . .	. . .	May 5
Black and White Warbler	May 1	May 1	Apr. 30	May 5	May 8	Apr. 23	May 5	May 1	. . .	May 1	. . .	Apr. 29	May 4	. . .	. . .	May 1
Worm-eating Warbler	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	May 12	. . .	May 18	May 13	. . .	. . .	. . .
Blue-winged Warbler	. .	May 6	May 5	. . .	May 19	May 7	. . .	. . .	. . .	May 8	. . .	May 11	May 13	May 9	. . .	May 8
Parula Warbler	May 11	May 5	May 6	May 14	. . .	. . .	May 7	May 9	May 12	May 7	. . .	May 10	. . .	May 11	. . .	May 8
Yellow Warbler	Apr. 28	Apr. 25	May 5	Apr. 28	. . .	May 11	May 3	Apr. 30	May 12	May 10	. . .	May 8	May 11	. . .	. . .	May 3
Black-throated Blue Warbler	. . .	May 3	May 6	. . .	. . .	May 18	. . .	May 6	May 15	May 3	. . .	May 9	May 10	. . .	. . .	May 6
Myrtle Warbler	May 7	Apr. 28	Apr. 20	Apr. 23	Apr. 19	Apr. 27	Apr. 28	May 1	Apr. 19	Apr. 21	. . .	Apr. 20	May 5	. . .	. . .	Apr. 22
Magnolia Warbler	. . .	May 7	. . .	. .	. . .	May 12	May 5	May 12	May 12	May 11	. . .	May 11	May 15	May 8	. . .	May 11
Chestnut-sided Warbler	. . .	May 7	May 9	May 17	May 14	May 6	. . .	. . .	May 16	May 8	. . .	May 3	May 15	May 12	. . .	May 9
Black-poll Warbler	May 11	May 9	May 16	May 17	May 14	May 15	. . .	May 9	May 15	May 9	. . .	May 15	May 16	. . .	. . .	May 12
Blackburnian Warbler	. . .	May 11	May 11	May 26	. . .	May 11	. . .	. . .	. . .	May 11	. . .	May 11	. . .	. . .	. . .	May 11
Black-throated Green Warbler	May 10	May 5	May 5	. . .	. . .	May 5	. . .	May 9	May 12	May 3	. . .	Apr. 29	May 13	May 11	. . .	May 5

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Ridley Park, Pa.	Lansdowne, Pa.	Addingham, Pa.	Haverford and Ardmore, Pa.	Wayne, Pa.	Cobb's Creek, W. Phila.	Germantown.	Chestnut Hill.	Frankford.	Date of Bulk Arrival.
Pine Warbler	. . .	Apr.22	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	Apr.22	. . .	. . .	. . .	. . .
Yellow Palm Warbler	. . .	Apr.30	Apr.16	Apr.21	. . .	. . .	Apr.28	. . .	Apr.20	Apr.20	. . .	Apr. 4	. . .	Apr.19	Apr. 5	Apr.19
Prairie Warbler	May 11	Apr.30	May 1	. . .	. . .	. . .	. . .	. . .	. . .	May 11	. . .	. . .	. . .	. . .	. . .	. . .
Ovenbird	May 2	Apr.28	May 5	. .	May 7	Apr.30	.	May 3	May 4	May 1	. . .	Apr.26	May 4	May 5	. . .	May 3
Water Thrush	. . .	May 10	May 5	May 13	May 3	. . .	May 19	May 19	May 18	May 7	. .	May 11	. . .	May 9	. . .	May 7
Kentucky Warbler	. . .	. . .	. . .	. . .	. . .	May 7	. . .	May 12	. . .	May 8	. . .	May 9	May 12	May 9	. . .	May 9
Maryland Yellow-throat	Apr.28	May 2	May 6	Apr.28	May 2	Apr.27	May 4	Apr.28	May 5	May 4	. . .	Apr.30	May 11	May 9	. . .	May 2
Chat	May 3	May 12	. . .	. . .	May 7	May 15	May 19	. . .	May 6	May 5	. . .	May 4	May 23	May 14	. . .	May 6
Canada Warbler	. .	May 24	. . .	May 17	. . .	May 12	. . .	. . .	. . .	May 18	. . .	May 18	May 23	. . .	. . .	May 18
Redstart	May 11	May 8	May 12	May 13	May 20	May 6	. . .	May 6	. . .	May 7	. . .	May 8	May 12	. . .	. . .	May 8
Catbird	Apr.30	May 2	Apr.30	May 5	Apr.23	May 2	May 2	Apr.30	May 3	May 3	May 2	May 3	May 4	May 5	. . .	May 2
Brown Thrasher	Apr.19	Apr.29	Mar.31	Apr.23	Apr.23	May 1	Apr.14	May 12	Apr.19	Apr.22	May 2	Apr.26	. . .	Apr.19	Apr.19	Apr.20
House Wren	Apr.25	Apr.25	Apr.20	May 5	Apr.23	Apr.25	Apr.30	Apr.27	Apr.28	Apr.26	May 2	Apr.24	Apr.28	Apr.27	. . .	Apr.26
Long-bill'd Marsh Wren	. . .	. . .	May 12	. . .	. . .	. . .	May 26	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Ruby-crowned Kinglet	Apr.30	Apr.18	Apr.20	. . .	Apr.18	Apr.17	Apr.14	Apr.17	Apr.18	Apr.16	. . .	Apr.18	. . .	Apr.19	Apr.22	Apr.18
Wood Thrush	May 2	May 2	Apr.30	. . .	. . .	May 4	May 2	Apr.30	May 1	May 2	May 11	May 3	May 3	May 2	. . .	May 2
Wilson's Thrush	. . .	. . .	May 12	May 13	. . .	May 11	. . .	May 6	. . .	May 3	. . .	May 8	May 15	. . .	. . .	May 8
Gray-cheeked Thrush	. . .	. . .	May 17	. . .	. . .	. . .	. . .	. . .	. . .	May 12	. . .	May 14	May 9	. . .	. . .	. . .
Olive-backed Thrush	. . .	. . .	May 8	May 17	. . .	. . .	. . .	May 26	. . .	May 12	. . .	May 9	. . .	. . .	. . .	May 9
Hermit Thrush	. . .	Apr.16	Apr.16	Apr. 7	. . .	Apr.15	. . .	Apr.15	Mar. 2	Apr.13	. . .	Apr.15	Apr.17	Apr.13	Apr.16	Apr.15
Robin	Feb.25	Feb.18	Mar. 2	Mar. 2	Feb.20	Feb.26	Feb.29	Feb.22	Feb.28	Feb.22	Feb.28	Feb.27	Feb.28	Mar. 2	Mar. 1	Feb.25
Bluebird	Feb.23	Feb.28	Feb.24	. . .	Res.	Feb.28	Feb.24	Feb.15	Feb.17	Feb.23	Mar. 1	Mar. 2	Feb.24	Mar.23	Feb.25	Feb.24

*List of Other Species Reported by Observers during 1918, and Additional Notes on Species Contained in the Schedule. Autumnal Dates Refer to Autumn of 1917 Unless Otherwise Stated.**

HORNED GREBE, *Colymbus auritus.* Altoona, April 14 (*McGraw*).

PIED-BILLED GREBE, *Podilymbus podiceps.* Fish House, March 20 (*Potter*); Altoona, March 10 (*McGraw*).

LOON, *Gavia immer.* Springfield, April 14; one heard flying over (*Hallett*) Brandywine near West Chester, March 28, a pair (*Brinton*), Fish House, N. J., May 5 (*Potter*); Cape May, N. J., April 3 (*Hand*).

GLAUCOUS GULL, *Larus hyperboreus* on river at Philadelphia, January 1–4, 1918 (*Erskine*).

HERRING GULL, *Larus argentatus.* Mt. Holly, N. J., February 12, one flew over (*Pumyea*); Lansdowne, February 10, six flying south-west (*Carter*); Frankford, October 12 (*Miller*); Haverford, February 10, two flew over (*Baily*); Chadds Ford, large flock on the Brandywine all winter (*Sharples*); Lopez, two shot November, 1917, and another seen April 8 (*Behr*).

BONAPARTE'S GULL, *Larus philadelphia.* Fish House, N. J., April 24, flock of 15 (*Potter*); Chester, November 27 and 29, 1918 (*Carter*).

LAUGHING GULL, *Larus atricilla.* Cape May, N. J., April 26 (*Hand*).

MERGANSER, *Mergus americanus.* Fish House, N. J., February 27–April 20 (*Potter*); Moorestown, N. J., December 25, ten (*Hallett*); Richmond, February 11 and 14 (*Miller*); Doylestown (on the Neshaminy), 2 on March 17 and flock on March 24 (*MacReynolds*).

BLACK DUCK, *Anas rubripes.* Fish House, N. J., March 22, fifteen (*Potter*); Richmond, February 15 (*Miller*); Concordville, March 14 (*Styer*); Bernville, Berks Co., March 23 (*Poole*).

MALLARD, *Anas platyrhynchos.* Haverford, male and two females, April 14 (*Serrill*).

* Localites are in Pennsylvania unless otherwise marked.

Names.	Cape May, N. J. E. 13; S. 72.	Vineland, N. J. E. 7; S. 32.	Downstown, N. J. E. 11; S. 28.	Concordville, Pa. W. 20; S. 5.	West Chester, Pa. W. 24; N. 0.	Hatboro, Pa. E. 2; N. 16.	Beverly, N. J. E. 13; N. 8.	Bordentown, N. J. E. 25; N. 13.	Allentown, N. J. E. 31; N. 16.	Mt. Holly, N. J. E. 19; N. 3.	Three Tuns, Pa. W. 1; N. 14.	Doylestown, Pa. E. 1; N. 26.	Buckingham, Pa. E. 4; N. 26.	Forestgrove, Pa. E. 2; N. 28.	Collegeville, Pa. W. 16; N. 18.	Reading, Pa. W. 40; N. 16.	Lopez, Pa. W. 60; N. 103.	Altoona, Pa. W. 176; N. 38.
Flicker	Mar. 2	Res.	Mar. 18	Res.	Mar. 9	Res.	Res.	Mar. 4	Mar. 25	Res.	Feb. 25	Mar. 17	Feb. 25	Mar. 8	Mar. 19	Mar. 12	Mar. 31	Mar. 31
Whip-poor-will	May 4	Apr. 2	Apr. 19	.....	.....	.....	May 6	.....	.....	May 14	.....	.....	.....	.....	May 15	May 14	May 6	May 21
Nighthawk	.....	.....	.....	May 5	May 16	.....	May 30	.....	.....	May 30	.....	.....	.....	.....	May 15	May 7	May 7	May 7
Chimney Swift	Apr. 29	Apr. 18	May 2	Apr. 19	Apr. 19	.....	May 1	Apr. 20	.....	Apr. 20	.....	Apr. 24	Apr. 22	Apr. 29	Apr. 24	Apr. 20	.....	May 7
Hummingbird	May 25	May 23	.....	May 11	May 7	.....	May 11	May 20	May 8	May 3	May 18	.....	May 20	.....	.....	.....	May 12	May 11
Kingbird	May 4	.....	May 1	May 2	May 3	Apr. 29	May 12	May 10	Mar. 14	May 7	May 6	May 15	May 7	May 8	May 7	May 4	May 7	May 18
Crested Flycatcher	.....	May 17	May 6	May 2	Apr. 28	.....	May 8	May 6	.....	May 6	May 12	May 11	May 12	May 6	May 6	May 10	.....	May 11
Phoebe	.....	.....	.....	May 20	Mar. 15	Mar. 20	Apr. 16	Apr. 2	.....	Mar. 24	May 23	Mar. 19	Mar 31	Mar. 7	Mar. 30	Mar. 23	Mar. 20	Mar. 31
Bobolink	.....	.....	.....	May 7	May 10	May 3	.....	.....	.....	.....	May 6	May 6	May 15	May 7	.....	.....	.....	May 9
Cowbird	.....	.....	.....	May 19	Mar. 6	Mar. 9	.....	Apr. 1	Apr. 9	Mar. 31	May 12	.....	.....	.....	.....	Mar. 23	.....	Mar. 31
Red-winged Blackbird	Feb. 12	Res.	Mar. 24	Mar. 3	Feb. 28	Mar. 9	Feb. 27	Mar. 7	Mar 16	Mar. 1	Mar. 20	Mar. 10	Mar. 9	Mar. 6	Mar. 11	Mar. 5	Mar. 6	Apr. 14
Baltimore Oriole	.....	May 3	.....	May 6	May 1	May 11	May 5	May 3	May 9	May 6	Apr. 30	May 11	May 2	May 8	May 5	May 6	May 7	May 4
Purple Grackle	Feb. 27	Res.	.....	May 15	Feb. 12	Feb. 27	Mar. 3	.....	.....	Feb. 14	Feb. 7	Feb. 24	Feb. 7	Feb. 25	Feb. 26	Mar. 4	.....	Mar. 17
Chipping Sparrow	Apr. 3	Mar. 4	Apr. 1	Mar. 30	Apr. 3	Mar. 20	.....	Apr. 2	Apr. 2	Apr. 3	Apr. 7	Apr. 5	Apr. 18	Apr. 20	Apr. 6	Apr. 14	Apr. 28	Apr. 17
Chewink	.....	Mar. 4	Apr. 28	Apr. 21	Apr. 16	Apr. 20	Apr. 28	Apr. 6	.....	Apr. 19	Apr. 19	Apr. 26	.....	May 5	Apr. 20	Apr. 21	Apr. 30	Apr. 18
Indigobird	May 4	May 18	.....	May 6	May 7	May 15	May 18	May 20	.....	May 12	.....	May 6	.....	.....	May 13	May 10	.....	May 18
Scarlet Tanager	.....	.....	May 20	May 7	May 7	May 16	May 12	May 10	.....	May 11	May 14	May 12	.....	.....	May 6	May 11	May 16	May 19
Purple Martin	Apr. 16	Apr. 17	Apr. 4	.....	Apr. 6	.....	Apr. 21	Apr. 20	.....	Mar. 31	May 22	Apr. 18	.....	Apr. 13	.....	Apr. 16	.....	May 3
Barn Swallow	Apr. 30	.....	.....	Apr. 24	Apr. 24	Apr. 29	May 11	Apr. 30	.....	Apr. 22	May 6	Apr. 28	May 2	Apr. 30	Apr. 15	Apr. 20	Apr. 28	Apr. 21
Red-eyed Vireo	.....	.....	May 12	May 14	May 6	May 11	May 7	May 10	May 22	May 5	May 16	May 14	May 18	.....	May 13	May 11	May 17	May 17
Black-and-white Warbler	.....	May 13	.....	Apr. 29	May 2	.....	May 12	May 1	.....	Apr. 25	May 2	May 2	Apr. 30	May 6	May 5	Apr. 30	May 5	May 5
Chestnut-sided Warbler	.....	.....	.....	.....	May 7	.....	May 13	.....	.....	.....	May 12	.....	.....	.....	.....	May 6	May 7	May 12
Ovenbird	May 4	.....	Apr. 30	May 2	Apr. 30	Apr. 30	May 11	May 15	.....	May 3	May 13	Apr. 28	.....	May 4	.....	Apr. 30	May 6	May 5
Maryland Yellow-throat	Apr. 30	.....	May 5	May 3	Apr 30	May 14	May 5	May 10	.....	Apr. 28	May 16	May 6	.....	May 5	.....	May 3	May 13	May 11
Chat	.....	May 19	May 19	May 7	May 2	Apr. 30	May 12	May 12	...	May 30	.....	.....	.....	.....	.....	May 10	.....	May 11
Catbird	.....	Apr. 26	May 5	May 3	Apr 25	May 11	May 4	May 2	May 12	May 3	May 11	May 3	May 12	May 8	May 6	Apr. 30	May 12	May 12
Brown Thrasher	Apr. 16	Apr. 20	Apr. 28	Apr. 23	Apr. 18	.....	May 4	Apr. 25	.....	Apr. 19	Apr. 21	Apr. 24	Apr. 30	Apr. 30	Apr. 24	Apr. 27	Apr. 27	Apr. 21
House Wren	May 4	May 8	Apr. 30	Apr. 28	Apr. 16	.....	Apr 28	Apr. 30	May 8	Apr. 24	May 6	May 12	Apr. 30	Apr. 27	Apr. 23	Apr. 27	May 5	May 4
Wood Thrush	May 4	.....	May 12	May 3	May 1	May 3	May 1	May 6	Apr. 26	May 3	May 2	May 11	.....	May 6	.....	May 6	.....	May 12
Hermit Thrush	.....	Apr. 17	.....	Apr. 6	Apr. 7	Mar. 23	Apr. 17	.....	.....	Apr. 7	.....	Apr. 14	.....	Apr. 16	Apr. 14	Apr. 16	Apr. 10	Apr. 14
Robin	.....	Mar. 1	Feb. 19	Feb. 14	Feb. 10	Mar. 4	Feb 24	May 6	Mar. 10	Res.	Feb. 25	.....	Feb. 25	Feb. 27	Mar. 2	Feb. 23	Mar. 2	.....
Bluebird	.....	Feb. 13	Feb. 29	Feb. 24	Feb. 15	Mar. 6	Feb. 17	Res.	Mar. 10	Res.	Feb. 27	.....	Res.	.....	Feb. 27	Mar. 5	Feb. 27	.....

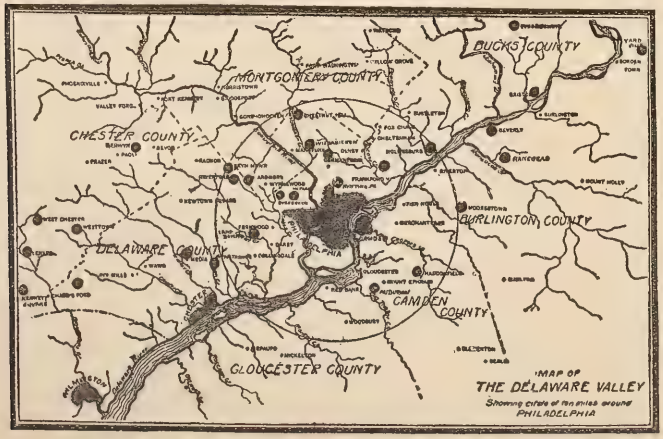


TABLE II.

SPRING MIGRATION, 1918.

EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES AT EIGHTEEN STATIONS OUTSIDE THE PHILADELPHIA CIRCLE.

BLUE-WINGED TEAL, *Querquedula discors.* Salem, N. J., April 28, six (*Potter*).

GREEN-WINGED TEAL, *Nettion carolinense.* Bernville, Bucks Co., two March 23 (*Poole*).

BALDPATE, *Mareca americana.* Reading, March 16, two (*Poole*).

PINTAIL, *Dafila acuta.* Fish House, N. J., March 13, ten (*Potter*); Richmond, February 15 and 28, large flocks (*Miller*).

WOOD DUCK, *Aix sponsa.* Blue Marsh near Reading, August 25 (*Poole*).

LESSER SCAUP, *Marila affinis.* Reading, November 2, 1917, and March 28 (*Poole*); Altoona, April 7 (*McGraw*).

REDHEAD, *Marila americana.* Fish House, N. J., March 16, two (*Potter*); Reading, March 12 and 16 (*Poole*).

GOLDEN-EYE, *Clangula americana.* Richmond, January 18, two, and February 14 (*Miller*).

CANADA GOOSE, *Branta canadensis canadensis,* Chester, February 19 (*Carter*).

WHISTLING SWAN. *Olor columbianus.* Kinkora, N. J., March 3 (*Baird*).

BITTERN, *Botaurus lentiginosus.* Camden, N. J., April 21 (*Potter*).

GREAT BLUE HERON, *Ardea herodias herodias.* Moorestown, N. J., May 3 (*Mickle*); Camden, N. J., February 24 (*Potter*); Salem, N. J., April 28, twenty nests, one with young (*Potter*); Haverford, April 20 (*Serrill*); Reading, December 1, 1917 (*Poole*); Wenonah, N. J., January 6, 1918 (*Erskine*).

LITTLE BLUE HERON, *Florida caerulea.* Oaks, Montgomery Co., two June 30 (*Poole*).

GREEN HERON, *Butorides virescens virescens.* Cape May, N. J., November 4, 1917 (*Hand*).

NIGHT HERON, *Nycticorax nycticorax naevius.* Cape May, N. J., December 14, 1917 (*Hand*).

KING RAIL, *Rallus elegans.* Moorestown, N. J., January 24 (*Evans*).

VIRGINIA RAIL, *Rallus virginianus.* Altoona, April 21 (*McGraw*).

SORA, *Porzana carolina.* Cobbs Creek, May 6, one found

dead (*Mahey*); Bridesburg, June 13, nest and five eggs, and November 14, 1917, one seen (*Miller*); West Grove, one found dead October 1, 1917 (*Roberts*); Altoona, two on May 5 (*McGraw*).

Florida Gallinule, *Galinula galeata.* Increasing as summer resident at Bridesburg (*Miller*).

Woodcock, *Philohela minor.* Audubon, N. J., May 26 (*Tatum*); Cape May, N. J., large flight on November 3–6, probably 500 shot at Cape May Point, and 200 in lower Twp., young just able to fly on May 1 (*Hand*); Addingham, April 16 (*Culver*); West Philadelphia, March 30 (*Mahey*); Torresdale, June 30 (*Miller*); Reading, March 12 (*Poole*); Lopez, April 10, two (*Behr*); Altoona, nest and four eggs, May 12 (*McGraw*).

Wilson's Snipe, *Gallinago delicata.* Camden, N. J., April 10–May 12 (*Potter*); Cape May, N. J., March 19 (*Hand*); Richmond, November 28 (*Miller*); Forest Grove, April 3 (*Bewley*); Reading, April 13 (*Poole*); Altoona, May 5 (*McGraw*).

Least Sandpiper, *Pisobia minutilla.* Moorestown, N. J., May 12 (*Mickle*); Reading, May 6 and 18 (*Poole*).

Pectoral Sandpiper, *Pisobia maculata.* Reading, April 7, feeding on mud flats with Killdeers (*Poole*).

Greater Yellow-legs, *Totanus melanoleucus.* Camden, N. J., April 28–May 17 (*Potter*); Audubon, N. J., May 13 (*Tatum*); Cape May, N. J., March 19 (*Hand*); Concordville, March 29 (*Styer*); Reading, October 6 and 16 (*Poole*); Altoona, May 9 (*McGraw*).

Lesser Yellow-legs, *Totanus flavipes.* Reading, August 18 and October 6, 1917 (*Poole*).

Hudsonian Curlew, *Numenius hudsonicus.* Cape May, N. J., April 26 (*Hand*).

Upland Plover, *Bartramia longicauda.* Salem, N. J., April 28, two (*Potter*); Gwynedd Valley, June 20, a pair (*Miller*); Forest Grove, May 3 (*Bewley*); Bernville, Bucks Co., June 24, 1917; Reading, August 22, 1917, and April 27, and Hamburg, July 28, 1917 (*Poole*).

Black-bellied Plover, *Squatarola squatarola.* Cape May, N. J., April 26 (*Hand*).

Semipalmated Plover, *Aegialitis semipalmata.* Cape May, N. J., April 26 (*Hand*).

KILLDEER, *Oxyechus vociferus.* Concordville, nest and eggs, April 5 (*Styer*).

TURNSTONE, *Arenaria interpres.* Cape May, N. J., May 4 (*Hand*).

WILD TURKEY, *Meleagris gallopavo fera.* Beaver Dams near Altoona, saw four February 24, 1918 (*McGraw*).

MOURNING DOVE, *Zenaidura macroura carolinensis.* Gwynedd Valley, November 24, 1917 (*Miller*).

TURKEY VULTURE, *Cathartes aura septentrionalis.* Salem, N. J., April 28, two nests with eggs (*Potter*); Cape May, N. J., during the cold spell in January several came into the yard and fed with the chickens; two were found dead in the woods, evidently starved (*Hand*).

SHARP-SHINNED HAWK, *Accipiter velox.* W. Philadelphia, February 28–May 18 (*Mahey*).

GOSHAWK, *Astur atricapillus atricapillus.* Haverford, February 2 (*Scoville*); Frankford, January 6 (*Miller*); Doylestown, twenty killed in upper Bucks Co. during the winter; first one in November at Curley Hill, and seen as late as April 7 at Bridge Valley (*MacReynolds*); Olney, November 13, 1917 (*Sudders*).

BROAD-WINGED HAWK, *Buteo platypterus.* Hainesport, N. J., May 30, nest and two eggs (*Potter*); Concordville, March 29 (*Styer*); Lansdowne, March 17, two (*Carter*).

ROUGH-LEGGED HAWK, *Archibuteo lagopus sancti-johannis.* Bridesburg, February 7–27 (*Miller*); Oakes, January 5 and 6 (*Rowland*).

RED-SHOULDERED HAWK, *Buteo lineatus lineatus.* Salem, N. J., April 28, nest and three eggs (*Potter*).

BALD EAGLE, *Haliaetus leucocephalus leucocephalus.* Haverford, a pair March 16 (*Serrill*); mouth of Maurice River, N. J., September 11 (*Prince*); one seen at Riverton, February 17, and nest near Smyrna, Del., with one egg, March 9 (*Street*).

SHORT-EARED OWL, *Asio flammeus.* Camden, N. J., December 25, 1917 (*Potter*); Bridesburg, January 14 (*Miller*).

LONG-EARED OWL, *Asio wilsonianus.* Gloucester, N. J., January 20–March 2 (*Potter*); Springfield, five in an evergreen tree January 27–February 3 (*Hallett*); Haverford, April 13 (*Serrill*);

Paoli, May 11, nest in a cedar, five young (*Baily*); West Chester, six from January 6 to late February (*Ehinger*).

Barn Owl, *Aluco pratincola.* Collingswood, N. J., December 23, 1917 (*Potter*); Lansdowne, April 17–25 (*Carter*); Holmesburg, January 9 (*Miller*).

Great Horned Owl, *Bubo virginianus virginianus.* Doylestown, twelve killed in northern Bucks Co. during the winter (*MacReynolds*); Salem, N. J., nest with two eggs, March 2 (*Street*); Smyrna, Del., March 9, nest with one egg (*Street*).

Snowy Owl, *Nyctea nyctea.* Moorestown, N. J., January 11. 1918 (*Linton*); one shot at Norristown, November 5, 1918 (*Regar*).

Saw-whet Owl, *Nyctala acadica.* Lansdowne, two heard nightly in the same yard, September 19–October 10 (*Hallett*); saw one of them on two occasions.

Flicker, *Colaptes auratus luteus.* Lansdowne, November 1 (*Hallett*); Gwynedd Valley, December 1, January 11 and 24 (*Miller*); Moorestown, N. J., December 25–26, 1917.

Red-headed Woodpecker, *Melanerpes erythrocephalus.* W. Philadelphia, digging nest May 18 (*Mahey*).

Kingfisher, *Ceryle alcyon alcyon.* Moorestown, N. J., December 25, 1917, two (*Hallett*); Darby, January 5 (*Culver*).

Whip-poor-will, *Antrostomus vociferus.* Singing in the early morning, April 30–May 2 (*Carter*).

Hummingbird, *Archilocus colubris.* Cape May, N. J., October 1, 1917 (*Hand*); Vineland, N. J., September 28 (*Prince*).

Horned Lark, *Otocoris alpestris alpestris.* Moorestown, N. J., January 25 (*Evans*); Frankford, January 19 (*Miller*); Concordville, January 20–February 12 (*Styer*); Reading, December 1, 8, 1917, and April 13 (*Poole*); Altoona, April 23 (*McGraw*).

Prairie Horned Lark, *Otocoris alpestris praticola.* Lyons, Berks Co., November 17, 1917 (*Poole*).

Olive-sided Flycatcher, *Nuttallornis borealis.* Reading, August 22 (*Poole*); Lopez, May 17 (*Behr*); Holidaysburg, May 26 (*McGraw*).

Yellow-bellied Flycatcher, *Empidonax flaviventris.* Altoona, May 17 (*McGraw*).

Blue Jay, *Cyanocitta cristata cristata.* Lansdowne, none from

November 6 to May 31 (*Hallett*); W. Philadelphia, none from December 25 to May 3 (*Mahy*); Fort Washington, one December 27 (*Miller*).

Bobolink, *Dolichonyx oryzivorus.* Altoona, June 3, breeding at Dysart's Park (*McGraw*).

Starling, *Sturnus vulgaris.* Wayne, very abundant during zero weather and ate all the suet and food put out for other birds, driving away the Juncos, English Sparrows, Downy Woodpeckers and even a Blue Jay (*Alexander*); seen near Holidaysburg, April 3 (*McGraw*).

Meadowlark, *Sturnella magna magna.* Cape May, N. J., frequent in the streets during the intense cold of January feeding on horse droppings, one lived in a narrow alley by the post office (*Hand*).

Purple Grackle, *Quiscalus quiscula quiscula.* Lansdowne, November 16 and December 27, 1917 (*Hallett*); Gwynedd Valley, November 24, 1917 (*Miller*).

Rusty Blackbird, *Euphagus carolinus.* Gwynedd Valley, flock of 16 November 3 (*Miller*); Wenonah, N. J., January 6, 1918 (*Erskine*).

Red Crossbill, *Lopia curvirostra minor.* New Lisbon, N. J., February 17, 1918 (*Scoville*).

Redpoll, *Acanthis linaria linaria.* Lansdowne, January 1, one in company with White-throated Sparrows (*Hallett*).

Snow Bunting, *Plectrophenax nivalis nivalis.* Richmond, one shot December 22, 1917 (*Miller*).

Purple Finch, *Carpodacus purpureus purpureus.* Rancocas, N. J., April 20 (*Haines*); Moorestown, N. J., April 16–May 4 (*Linton*); Swarthmore, April 22 (*Palmer*); Lansdowne, April 7, 19 and 20 (*Hallett*); West Philadelphia, March 2–May 2 (*Mahy*); Chestnut Hill, large flock April 9–21 (*Trotter*); Manoa, April 6 (*Miller*); Concordville, April 19 (*Styer*); Haverford, April 13, large flock (*Serrill*); Vineland, N. J., January 21, a pair, March 25 and April 10 and 24 (*Prince*); Mt. Holly, N. J., December 16 and February 17 (*Pumyea*); West Chester, November 4–May 4 (*Roberts*); Reading, December 1–April 20 (*Poole*); Haverford, November 4–May 10 (*Scoville*).

Goldfinch, *Astragalinus tristris tristris.* Moorestown, N. J., April 28, May 8 (*Mickle*); Swarthmore, April 29, abundant

(*Palmer*); Lansdowne, April 28 and after, abundant (*Hallett*); Addingham, May 4, abundant (*Culver*); West Philadelphia, common after April 6 (*Mahy*); West Chester, none until March 24 (*Roberts*); Reading, November 17–March 29 (*Poole*); Altoona, May 4 (*McGraw*).

Siskin (*Spinus pinus*) Haverford, April 14 (*Scoville*).

Seaside Sparrow, *Passerherbulus maritimus maritimus.* Cape May, N. J., nest and three eggs May 26 (*Potter*).

White-crowned Sparrow, *Zonotrichia leucophrys leucophrys.* Reading, October 19 (*Poole*).

White-throated Sparrow, *Zonotrichia albicollis.* Moorestown, N. J., October 22–May 12 (*Mickle*); West Philadelphia, October 17–May 15, very common after April 13 (*Mahy*); Frankford, September 23–December and April 22 (*Miller*); Vineland, N. J., September 21–May 11 (*Prince*); Mt. Holly, N. J., September 30–May 14 (*Pumyea*); Three Tuns, October 30–December 3 and April 14–May 18 (*Cox*); Doylestown, December 23, one and then none until April 18–May 12 (*MacReynolds*); Lansdowne, April 17–May 3, none wintered (*Hallett*); Concordville, none wintered, April 16, first seen (*Styer*); West Chester, first seen April 16 (*Ehinger*); Altoona, May 5 (*McGraw*); Ridley Park, last seen May 5 (*Lloyd*).

Junco, *Junco hyemalis hyemalis.* Moorestown, N. J., October 22–May 2 (*Mickle*); Lansdowne, October 2–April 14 (*Hallett*); West Philadelphia, October 17–April 30 (*Mahy*); Mt. Holly, N. J., October 7–April 23 (*Pumyea*); West Chester, October 7–April 20 (*Roberts*); Doylestown, October 14–April 24 (*MacReynolds*); Reading, October 14–April 28 (*Poole*); Altoona, November 25–April 26 (*McGraw*); Haverford, October 7–May 4 (*Scoville*); last seen at Ridley Park, April 21 (*Lloyd*); Downstown, N. J., April 19 (*Fair*).

Tree Sparrow, *Spizella monticola monticola.* Frankford, October 31–March (*Miller*); Mt Holly, N. J., October 16–April 6 (*Pumyea*); West Chester, November 11–February 23 (*Roberts*); Doylestown, November 4–March 26 (*MacReynolds*); Reading, November 4–March 23 (*Poole*); Altoona, November 4–February 24 (*McGraw*); last seen, Moorestown, N. J., March 16 (*Mahy*); Concordville, March 29 (*Styer*).

Cardinal, *Cardinalis cardinalis cardinalis.* Altoona, seen

from September 30 to June 2 (*McGraw*); nest at Swarthmore, May 4, with eggs (*Palmer*); Lansdowne, April 28, with two eggs (*Carter*); West Philadelphia, May 21, young just left the nest (*Mahy*).

Northern Shrike, *Lanius borealis.* Cape May, N. J., November 6 (*Hand*); Atlantic City, N. J., January 17 (*Cromie*); Downstown, N. J., November 21 and 26 (*Fair*); Mt. Holly, N. J., December 23 (*Pumyea*); Fish House, N. J., February 12–16 (*Potter*); Concordville, January 16–20 (*Styer*); Doylestown, December 9 and January 6 (*MacReynolds*); Reading, February 16 and March 24 (*Poole*); Lopez, March 5 (*Behr*).

Purple Martin, *Progne subis subis.* Vineland, N. J., September 24, 1917 (*Prince*).

Worm-eating Warbler, *Helmitheros vermivorus.* Scarlett's Mills, Berks Co., June 9, 1917 (*Poole*).

Golden-winged Warbler, *Vermivora chrysoptera.* Altoona, May 11 (*McGraw*).

Nashville Warbler, *Vermivora rubricapilla.* Lansdowne, May 11–12 (*Hallett*); Haverford, May 9, three (*Serrill*).

Tennessee Warbler, *Vermivora peregrina.* Audubon, N. J., May 13 (*Tatum*); Moorestown, N. J., May 17 (*Jacob* and *Linton*); Lansdowne, May 14 and 19 (*Carter*); Haverford, May 10 and 12 (*Serrill*); West Philadelphia, May 11 (*Mahy*); Concordville, May 12 (*Styer*); West Chester, May 14 (*Ehinger*) and May 18 (*Himmelsbach*) and May 9 (*Roberts*); Reading, September 22, 1917 (*Poole*); Lopez, May 19 (*Behr*).

Cape May Warbler, *Dendroica tigrina.* Moorestown, N. J., May 4 (*Mickle*); Camden, N. J., May 9 (*Potter*); Lansdowne, May 12 (*Hallett*); Vineland, N. J., September 17, 1917, eating grapes (*Prince*); West Chester, May 7 (*Ehinger*); May 15 (*DeHaven*) and May 6 (*Roberts*); Haverford, May 9 (*Scoville*); Reading, September 24, 29, 30 and October 7, 1917, and May 12 and 19 (*Poole*); Altoona, May 5 (*McGraw*); Beverly, N. J., May 12 (*Baird*).

Bay-breasted Warbler, *Dendroica castanea.* Moorestown, N. J., May 11 (*Linton*); Camden, N. J., May 16 (*Potter*); Addingham, May 15 (*Culver*); Haverford, May 12 (*Serrill*) and 15 (*Scoville*); West Philadelphia, May 14–18 (*Mahy*); Germantown, May 13 (*Barker*); West Chester, May 23 (*Ehinger*) and May 14 (*Roberts*); Altoona, May 19 (*McGraw*).

Myrtle Warbler, *Dendroica coronata.* Lansdowne, last seen November 4, 1917 (*Hallett*); Vineland, N. J., November 1 (*Prince*); Doylestown, January 27, but on only two days in the spring (*MacReynolds*).

Pine Warbler, *Dendroica vigorsi.* Mays Landing, N. J., April 2 (*Hallett*).

Louisiana Water Thrush, *Seiurus motacilla.* Haverford, April 20 (*Serrill*); Hay Creek, Berks Co., June 9, 1917, adult feeding nearly full-fledged young (*Poole*).

Connecticut Warbler, *Oporornis agilis.* Reading, September 22, 1917 (*Poole*).

Mourning Warbler, *Oporornis philadelphia.* Altoona, May 26 (*McGraw*); Haverford, May 23 and June 1 (*Scoville*).

Wilson's Warbler, *Wilsonia pusilla.* Haverford, May 12 (*Serrill*) and May 15 (*Scoville*); West Philadelphia, May 15 (*Mahy*); Chestnut Hill, May 11 (*Trotter*); Doylestown, May 12, one (*MacReynolds*); Reading, May 11, 14 (two) and 18 (*Poole*).

Redstart, *Setophaga ruticilla.* Moorestown, N. J., last seen May 31 (*Linton*).

Yellow-breasted Chat, *Icteria virens virens.* Summer resident at Altoona, a number seen June 2 (*McGraw*).

Pipit, *Anthus rubescens.* Salem, N. J., April 28, flock of 30 (*Potter*); Lansdowne, October 21, fifteen (*Hallett*); Haverford, October 11, fifteen (*Hallett*), March 23 (*Scoville*) and April 6, small flock (*Serrill*); West Philadelphia, April 12, fifty (*Mahy*); Bridesburg, December 5, 1917, three (*Miller*); Concordville, May 7 (*Styer*); Forest Grove, April 5 (*Bewley*); Sinking Spring near Reading, March 29, flock of 21 (*Poole*). Port Sudian, April 13 (*Rowland*).

Mockingbird, *Mimus polyglottos polyglottos.* Moorestown, N. J., December 25–April 14 (*Mickle*); Cape May Pt., N. J., August 24, 1917, two adults and a young one (*Potter*), and one all winter (*Hand*), and May 26 (*Baird*); Vineland, N. J., a pair, May 23–June 13 (*Prince*); Lansdowne, one seen November 17, 18 and 23, 1917, and March 30–April 27 (*Carter*); Concordville, January 5–10 and 26–31 (*Styer*); West Grove, September 18, 1917, a young bird; one seen also October 22, 1917 and February 28 (*Roberts*); Princeton, N. J., January 1, 1918 (*Sherrill*); Horsain, April 28 (*G. S. Morris*).

Catbird, *Dumetella carolinensis.* Haverford, September 29 (*Hallett*); Media, December 15–26 (*Allen*).

Carolina Wren, *Thryothorus ludovicianus ludovicianus.* Moorestown, N. J., December 25 and May 12 (*Linton*); Lansdowne, October 31, 1917, and November 23 (*Hallett*); Doylestown, one seen on April 7, first time for here (*MacReynolds*).

Winter Wren, *Nannus hiemalis hiemalis.* Moorestown, N. J., November 28, 1917 (*Mickle*); Frankford, first seen October, 2 (*Miller*); Haverford, October 21–March 23 (*Scoville*); Reading, October 14–February 24 (*Poole*); Lopez, April 12 (*Behr*); Altoona, October 27–April 14 (*McGraw*).

Brown Creeper, *Certhia familiaris americana.* Moorestown, N. J., October 26–April 17 (*Mickle*); Mt. Holy, N. J., October 7–April 6 (*Pumyea*); Lansdowne, October 29 (*Hallett*); West Philadelphia, October 17–April 24, abundant April 19–24 (*Mahy*); Frankford, first seen October 8 (*Miller*); West Chester, October 17–April 22 (*Roberts*); Haverford, October 21–March 24 (*Scoville*); Doylestown, January 3–March 24 (*MacReynolds*); Forest Grove, November 3–April 7 (*Bewley*); Reading, October 13–April 23 (*Poole*); Altoona, October 27–April 26 (*McGraw*).

Red-breasted Nuthatch, *Sitta canadensis.* Concordville, January 20 (*Styer*).

Golden-crowned Kinglet, *Regulus satrapa satrapa.* Moorestown, N. J., October 10 (*Mickle*); Mt. Holly, N. J., October 5 (*Pumyea*); Lansdowne, October 22–November 6 (*Hallett*); West Philadelphia, November 4, 1917 (*Mahy*); Frankford, October 1–December 4 (*Miller*); Haverford, October 10–January 1 (*Scoville*); West Chester, October 11–April 23 (*Roberts*); Doylestown, October 7–December 7 (*MacReynolds*); Altoona, October 7–March 31 (*McGraw*).

Black-capped Chickadee, *Penthestes atricapillus atricapillus.* Ardmore, abundant November, 1918–January, 1919 (*Baily*); Altoona, October 14, 1917–May 26 (*McGraw*).

Tufted Titmouse, *Baeolophus bicolor.* Doylestown, seen December 25, 1917, and March 18 (*MacReynolds*).

Robin, *Planesticus migratorius migratorius.* Ridley Park, returned to last year's nest on the porch, and after slight repairs raised a brood in it (*Lloyd*); Cape May, N. J., October 31–November 7, 1917, a large flight (*Hand*).

Abstract of the Proceedings of the Delaware Valley Ornithological Club, 1918

J. FLETCHER STREET

January 3, 1918. The twenty-eighth annual meeting of the Delaware Valley Ornithological Club. The following officers were elected for the ensuing year :

President—Henry W. Fowler,
Vice-President—George H. Stuart, 3rd,
Treasurer—Samuel C. Palmer,
Secretary—J. Fletcher Street.

Twenty-five members and two visitors present. Dr. Stone read a paper entitled "Vincent Barnard, an Early Pennsylvania Ornithologist," compiled from the manuscripts of Mr. C. J. Pennock. Extracts from Barnard's diary were read, evoking much interest and amusement.

January 17, 1918. One visitor and twenty-five members present. The following committees were appointed : Auditing Committee, Rehn and Stone; Field Committee, Messrs. Baily, Scoville and Street; Publication Committee, Messrs. Trotter, Cope and Morris. Mr. John D. Carter addressed the members upon the subject, "Pocono Bird Notes of 1917," describing his recent observations of some of the rarer of Pocono birds during the past summer.

February 7, 1918. One visitor and twenty-two members present. Mr. Samuel N. Rhoads gave a very interesting talk on "John Abbot, the Georgian Naturalist and his Portfolio of Bird Paintings." His remarks pertained to the activities of this early naturalist, and his work upon birds, tortoises, turtles, etc. A large collection of bird plates with very interesting local names of species was exhibited.

February 21, 1918. Twenty-two members present. Dr. Spencer Trotter made the communication of the evening, speaking upon the subject, "College Ornithology." The speaker, by charts and lantern slides, explained his methods of introducing the subject of ornithology to college students. Mr. Rhoads mentioned a collection of birds at Medford, N. J., obtained near that locality and containing some rare specimens.

March 7, 1918. Twenty-four members in attendance. Mr. Arthur Miles Sherrill, Delmar-Morris Apartments, Germantown, was elected to Associate Membership. Dr. Stone addressed the meeting on "Additional Observations on Cape May Birds," giving an historical account of the early settlement of the Cape May Peninsula, and mentioned such species as the Mocking Bird, Short-billed Marsh Wren, Henslow's Sparrow and Black Rail as now credited with nesting in this vicinity.

March 21, 1918. One visitor and eighteen members present. Dr. Samuel C. Palmer gave a very interesting communication entitled "Birds in Literature," pointing out that the use of vernacular names by the majority of our poets often led to a mistaken identity of the species intended. Several quotations referring to the birds in question were read.

April 4, 1918. Two visitors and twenty-two members present. Mr. Julian K. Potter gave a communication on "Owls and Owling," describing the life habits during the winter months of the Barn Owl, Short-eared Owl and Saw-whet Owl. Mr. J. F. Street followed, speaking upon the subject, "Hawks and Owls," and described the nesting haunts and habits of the Great-horned Owl, Barn Owl, Eagle and several species of Hawks.

April 18, 1918. Four visitors and twenty-five members present. The meeting was addressed by Dr. Witmer Stone upon the subject "Further Notes on South Carolina Birds." His remarks pertained to observations made in the vicinity of Otranto, Columbia and Manning during the early days of May, 1917. Among the notable birds observed and especially men-

tioned were the Prothonotary Warbler, Shrike and Blue Grosbeak.

May 2, 1918. Two visitors and twenty-three members present. Mr. James A. G. Rehn addressed the meeting upon the subject, "Notes upon the Birds of Southern Arizona." The speaker described a trip taken the early summer of 1916 through the country adjacent to Tucson, Pima Co., Arizona. The talk was illustrated by lantern slides and the communication was commented upon by the members.

May 16, 1918. Twenty members present. Mr. J. Franklin Styer made a review of "The Status of the Mockingbird about Philadelphia," giving a complete record of the observance of the species in the locality over an extended period of years. Wilson and Bartram first remarked about the species in 1810. A "Discussion on the Migrant Warblers" followed, by Mr. George S. Morris.

October 3, 1918. One visitor and fourteen members present. It was resolved to hold but one meeting per month during the remaining period of the war. Mr. Samuel Scoville, Jr., spoke upon the subject "In Audubon Land," describing the country adjacent to Oakes, in the Perkiomen Valley. A record of Audubon's associations with this district was reviewed and several interesting episodes of his sojourn there were noted. Mr. Conrad Rowland gave an "Illustration of Bird Subjects" from original drawings.

November 7, 1918. One visitor and twenty members present. Dr. Witmer Stone addressed the meeting upon the subject "Bird Life of the Panama Canal Zone." The speaker dwelt especially upon a collection from this district made by the late L. L. Jewel, and which is now in the Academy collection. The deaths of our fellow associates, Charles Platt 3rd, and Archibald Benners were announced, the latter having been killed in action in France.

December 5, 1918. Three visitors and twenty-five members present. The following were elected to Associate Membership :

Alfred R. Allen, 2013 Spruce St.
G. Gordon Mahy, Jr., 4809 Warrington Ave.
Howard P. Hottle, 430 W. Bringhurst St., Germantown.
A. C. Gardner, 1805 Market St., Wilmington, Del.

The meeting was addressed by Mr. Samuel N. Rhoads upon the subject "Old Bird Book Reminiscences." The speaker described the early experiences and environments which developed his growing interest in ornithology. Dr. Stone exhibited a copy of William Beebe's "Monograph of Pheasants," a volume beautifully illustrated by well-known bird artists.

Club Notes

The small size of the present issue is due to the heavy drain upon the Club's resources in getting out last year's CASSINIA owing to war prices. Next year it is our hope to issue the usual number of pages, but we must have outside support. If each present subscriber would secure an additional one or would buy up such back numbers as he needs, we should be helped materially. All but two issues can still be supplied at the original cost. The Club has published CASSINIA at a loss, in the interests of Ornithology, and all editorial services have been rendered voluntarily.

Thirteen meetings of the Club were held during the year; only one a month during the autumn on account of war conditions. The average attendance was twenty-two.

Three field trips were taken during the year as follows:

February 22, 1918. In the vicinity of Mantua Creek at Wenonah, N. J. Members attending, twenty; visitors, two. Intermittent snow all day. Twenty-six species of birds noted, including Long-eared Owl, Fox Sparrow, Myrtle Warbler, Red-winged Blackbird, Purple Grackle, Robin and Bluebird.

March 29, 1918. Clear and warm, light wind. Valley of Ridley Creek. Ten members and one visitor in attendance. Twenty-two species of birds noted, including American Bittern, Kingfisher, Phoebe and Fox Sparrow.

May 30, 1918. Clear and warm. Vicinity of Mt. Holly and New Lisbon, N. J. Twelve members attending. Sixty-eight species of birds noted, including the Great Blue Heron, Black-billed Cuckoo, Henslow's Sparrow, Pine Warbler; nests of Rough-winged Swallow and Broad-winged Hawk secured.

ARCHIBALD BENNERS, an Associate Member of the D. V. O. C., died in the service of his country in France, July 3, 1918, aged twenty-one years.

Being away from home, at school much of the time, since his election he attended but few meetings of the Club, but was thoroughly interested in its work and in the study of Ornithology. He secured many of the specimens contained in the valuable collection of mounted birds recently presented to the Academy by his father George B. Benners, and aided him in bringing together the splendid oological collection which he possesses.

Archie Benners was born April 27, 1897, in Philadelphia, and attended the Virginia Military Institute at Lexington, Va., from which he was graduated in 1917, six months ahead of time to enable him to enter the War College at Washington in order to obtain his commission in the Marine Corps. He served at Paris Island, S. C., and at Quantico, Va., and sailed for France on January 19, 1917, as Second Lieutenant in the 6th Regiment of Marines.

He was wounded near Verdun in March, but soon recovered and went back to duty. Was wounded again in May and went back again, and finally on June 3 was mortally wounded at Belleau Wood when the 5th and 6th Regiments of Marines, composed of 8000 men, defeated nearly 30,000 of the Prussian Guards and saved Paris. Only 2000 men came through that fight, unwounded.

He died on July 3 in a hospital near Paris, and is buried in the Marine Cemetery in Belleau Wood, which has been named by the French government "Marine Wood."

A number of his superior officers, who have since been interviewed, state that Archie was a very brave man and always volunteered for dangerous duty. He had just been promoted to First Lieutenant and recommended for a decoration.

Those who knew Archie Benners appreciated the earnestness of his character and his high moral standard, and a few who saw him just before he sailed were struck with what a splendid figure of a soldier he made. In his death the Club loses a valuable member and the country a brave officer.—W. S.

Bibliography, 1918

Papers Relating to the Birds of Pennsylvania, New Jersey and Delaware

Barbour, Robt. Scarcity of Birds in the Spring Migration of 1898. *The Auk*, 1918, p. 484.

Beck, H. H. Wild Fowl of the Susquehanna Flats. *Bird-Lore*, 1918, p. 357.

Breder, C. J. Photography at Feeding Stations. *Bird-Lore*, 1918, pp. 140–143. (Excellent photos of Tufted Tit and Brown Creeper at Newark, N. J.)

Danforth, Stuart T. [Winter Records for New Brunswick, N. J.] *Oölogist*, 1918, p. 44.

Dickey, S. S. Collecting Whippoorwill's Eggs. *Oölogist*, 1918, p. 105.

Egbert, Rose M. The Language of Robins. *Bird-Lore*, 1918, p. 300.

Eno, Henry L. Hudsonian Chickatee (*Penthestes hudsonicus subsp?*) at Princeton, N. J. *The Auk*, 1918, p. 231.

Farquhar, Arthur. Birds Observed During Two Hours at the Susquehanna River on the Afternoon of December 15. *Oölogist*, 1918, p. 30.

Farquhar, Arthur. [Late Swallow Records]. *Oologist*, 1918, p. 44.

Harlow, Richard C. Notes on the Breeding Birds of Pennsylvania and New Jersey. *The Auk*, 1918, pp. 18–29, 136–147.

Haynes, Louise de F. A Winter Mockingbird. *Bird-Lore*, 1918, p. 159 [at Highland, N. J.]

Jacobs, J. Warren. Unusual Sets of Red-tailed Hawk's Eggs. *Oölogist*, 1918, p. 45.

Lippincott, J. W. Spotted Sandpiper Colonies. *Bird-Lore*, 1918, pp. 282–284.

McConnell, Thos. L. High Mortality among the Purple

Martens in Western Pennsylvania during April, 1917. *Bird-Lore*, 1918, pp. 130–131.

McConnell, Thos. L. Some Common Land Birds Found in the Immediate Vicinity of McKeesport, Penn. *Oölogist*, 1918, pp. 150–152.

McGrew, Albert D. Breeding Birds of the Pocono Mountains. *Oölogist*, 1918, p. 135.

McGrew, Albert D. Observations on a Family of Winter Wrens. *Oologist*, 1918, pp. 162–164.

Miller, Ansel B. Robin Nesting on the Ground. *Bird-Lore*, 1918, p. 303.

Miller, Richard F. Nesting of the Bittern (*Botaurus lentiginosus*) in the Delaware Valley. *The Auk*, 1918, p. 477.

Miller, Richard F. Early Nesting of the Pileated Woodpecker in Pennsylvania. *The Auk*, 1918, p. 479.

Miller, Richard F. Winter Snipe in Philadelphia. *Oölogist*, 1918, p. 50.

Miller, Richard F. Note on the Barn Owl's Food. *Oölogist*, 1918, p. 51.

Miller, Richard F. Notes of Two Song Sparrow's Nests. *Oölogist*, 1918, p. 105.

Miller, Richard F. Pennsylvania and New Jersey Nesting Dates for 1915. *Oölogist*, 1918, pp. 122–123.

Miller, Richard F. Winter Great Blue Herons in New Jersey. *Oölogist*, 1918, p. 133.

Miller, Richard F. [Redpolls at Philadelphia]. *Oölogist*, 1918, p. 140.

Oberholser, H. C. Prothonotary Warbler (*Protonotaria citrea*) in New Jersey. *The Auk*, 1918, p. 227.

Potter, J. K. The Season. *Bird-Lore*, 1918, pp. 21, 164, 230, 303, 359 (résumé of condition of bird life about Philadelphia).

Rothrock, Boyd T. Little Blue Heron in Pennsylvania. *The Auk*, 1918, p. 75.

Rothrock, B. T. Willow Thrush in Pennsylvania. *The Auk*, 1918, p. 83.

Rowland, Conrad K. American Egret in Pennsylvania. *Bird-Lore*, 1918, p. 426.

STONE, WITMER. Yellow-headed Blackbird in New Jersey. *The Auk*, 1918, p. 81.

STONE, WITMER. Glaucous Gull (*Larus hyperboreus*) at Philadelphia. *The Auk*, 1918, p. 221.

STREET, J. FLETCHER. Hudsonian Chickadee on the Pocono Mountain, Pa. *The Auk*, 1918, p. 230.

STUART, G. H., 3RD. Brewster's Warbler in Pennsylvania. *The Auk*, 1918, p. 82.

STYER, ELIZABETH P. A Winter Mockingbird. *Bird-Lore*, 1918, p. 159 [at Concordville, Pa.]

TROTTER, SPENCER. Pied-billed Grebe (*Podilymbus podiceps*) in Chester Co., Pa., in Summer. *The Auk*, 1918, p. 218.

CHRISTMAS BIRD LISTS by numerous observers. *Bird-Lore*, 1918, pp. 34–38.

OFFICERS AND MEMBERS

OF THE

Delaware Valley Ornithological Club.

1919.

J. FLETCHER STREET, *President.*
GEORGE H. STUART, 3rd, *Vice-President.*
SAMUEL C. PALMER, *Treasurer*, Swarthmore, Pa.
JULIAN K. POTTER, *Secretary*, 6th and Bailey Sts., Camden, N. J.

ACTIVE MEMBERS.

BAILY, WILLIAM L., Ardmore, Pa. .....Founder
BROWN, STEWARDSON, 20 E. Penn St., Germantown, Phila. *1891
CARTER, JOHN D., Lansdowne, Del. Co., Pa. 1900
DEHAVEN, I. NORRIS, Ardmore, Pa. 1891
EHINGER, C. E., M. D., West Chester, Pa..... 1909
EMLEN, ARTHUR C., Awbury, Germantown, Phila. 1897
FOWLER, HENRY W., Langhorne, Pa. 1894
HUGHES, CAPT. WM. E., M. D., 3954 Chestnut St., Phila. 1891
MOORE, ROBERT T., Haddonfield, N. J. 1897
MORRIS, GEO. SPENCER, Olney, Phila., Pa. .....Founder.
PALMER, S. C., PH. D., Swarthmore College, Swarthmore, Pa. 1899
POTTER, JULIAN K., Sixth and Bailey Sts., Camden, N. J. 1911
REHN, JAMES A. G., 6033 Catherine St., Phila., Pa. 1899
RHOADS, SAMUEL N., Haddonfield, N. J. .....Founder.
ROBERTS, WILLIAM E., 207 McKinley Ave., Lansdowne, Pa. 1901
SCOVILLE, SAMUEL, JR., Pennsylvania Bldg., Phila., Pa..... 1907
SHRYOCK, WILLIAM A., 225 S. Sixth St., Phila., Pa. 1891
STONE, WITMER, SC. D., Academy of Natural Sciences, Phila....Founder.
STREET, J. FLETCHER, Beverly, N. J. 1903
STUART, GEO. H., 3RD, Girard Trust Company, Phila., Pa. 1910
TROTTER, SPENCER, M. D., Swarthmore College, Del. Co., Pa....Founder.
WEYGANDT, CORNELIUS, PH. D., Wissahickon Ave. below Frank St., Germantown, Phila. 1891

ASSOCIATE MEMBERS.

ADAMS, ROBERT, JR., Oak Lane P. O., Oak Lane, Phila. 1910
ALLEN, A. REGINALD, JR., 2013 Spruce St., Phila., Pa..... 1918
BACON, FRANCIS L., 236 Winona Ave., Germantown, Phila. 1917

* Date indicates year of election to Club.

BAIRD, DAVID G., Beverly, N. J. 1913
BALL, J. P., M. D., Frankford, Phila., Pa. 1910
BARTRAM, EDWIN B., 200 N. 3rd St., Phila., Pa. 1908
BEATTY, GEORGE, JR., Beverly, N. J. 1911
BECK, PROF. H. H., Franklin and Marshall College, Lancaster, Pa... 1917
BENNERS, GEORGE B., 2418 Spruce St., Phila., Pa. 1913
BORNEMAN, HENRY S., 801 Franklin Bank Bldg., Phila., Pa. 1913
BRADFORD, R. R. PORTER, 146 W. Lehigh Ave., Phila., Pa. 1913
BROWN, GEORGE FARNUM, Girard Trust Company, Phila., Pa. 1916
BURDSALL, RICHARD L., Swarthmore, Pa. 1916
BYROM, LEWIS S., 127 W. Susquehanna Ave., Phila. 1909
COOKE, GEORGE J., Ambler, Pa. 1916
COPE, FRANCIS R., JR., E. Washington Lane, Germantown, Phila... 1895
CULVER, DELOS E., Addingham, Pa. 1913
ELLIS, J. M. MACKINNON, Swarthmore, Pa. 1917
ERSKINE, RICHARD, Wenonah, N. J. 1916
EVANS, JOSEPH S., Marlton, N. J. 1913
EVANS, WILLIAM B., Moorestown, N. J. 1898
FARQUHAR, ARTHUR, York, Pa. 1918
FORSYTH, GEORGE, Route 4, R. F. D., West Chester, Pa. 1891
FOSTER, FRANK B., Haverford, Pa. 1912
FUGUET, STEPHEN, 1027 Spruce St., Phila. 1911
GARDNER, A. C., 1805 Market St., Wilmington, Del 1918
HAGAR, ARTHUR F., 525 Westview Ave., Germantown, Phila. 1906
HAINES, SAMUEL S., M. D., 124 E. Main St., Moorestown, N. J..... 1901
HALLETT, GEORGE H., JR., 199 Owens Ave., Lansdowne, Pa. 1911
HANNUM, WILLIAM E , Chester Heights, Pa..... 1901
HARROWER, LIEUT. DAVID E., Swarthmore, Pa. 1905
HARROWER, HAROLD, Swarthmore, Pa. 1914
HASSOLD, CARL, 107 Gowan Ave., Mt. Airy, Pa. 1917
HILL, THOMAS R., 409 Chestnut St., Phila..... 1908
HOTTLE, HOWARD P., 430 W. Bringhurst St., Germantown, Phila., Pa. 1918
HOWARD, PHILIP E., Swarthmore, Pa..... 1914
HUBER, WHARTON, Gwynned Valley, Pa. 1916
JUSTICE, WILLIAM W., JR., 7803 St. Martins Lane, Chestnut Hill.. 1893
JACK, CHARLES S., D. D. S., Media, Pa. 1906
KITE, NATHAN, Moylan, Pa. 1898
KUSER, JOHN DRYDEN, Bernardsville, N. J. 1911
LEWIS, SHIPPEN, 1820 Pine St., Phila., Pa. 1912
LINTON, M. ALBERT, 409 Chestnut St., Phila., Pa. 1905
LODGE, JOSEPH B., 3340 N. 16th St., Phila., Pa. 1900
LONGNECKER, PARKE L., D. D. S., 2015 Chestnut St., Phila., Pa. ... 1910
MCCADDEN, DAVID N., 5039 Osage Ave., Phila., Pa. 1892
MCCALL, WILLIAM W., JR., 4056 Chestnut St., Phila., Pa. 1915
MCMURTRIE, RICHARD C., 300 W. Highland Ave., Chestnut Hill 1904
MAHY, G. GORDON, JR., 4809 Warrington Ave., Phila., Pa. 1918

MASON, SAMUEL, JR., 522 Locust Ave., Germantown, Phila., Pa. ... 1913
MERCER, E. LEROY, M. D., Swarthmore, Pa. ... 1916
MERCUR, JAMES WATTS, JR., Wallingford, Pa. ... 1914
MEYERS, F. GUY, 908 Chestnut St., Phila., Pa. ... 1896
MILLER, ISAAC P., 409 Chestnut St., Phila., Pa. ... 1907
MILLER, RICHARD F., 2073 E. Tioga St., Phila., Pa. ... 1908
MITCHELL, DR. B. W., 4326 Pine St., Phila., Pa. ... 1914
NORRIS, EDWARD, St. Martins, Chestnut Hill, Phila. ... 1914
NORRIS, J. PARKER, JR., 2120 Pine St., Phila., Pa. ... 1916
PACKER, JESSE E., M. D., Norwood, Pa. ... 1911
PARKER, HARRY E., Southampton, Pa. ... 1915
PEPPER, LIEUT. COL. WILLIAM, M. D., 1811 Spruce St., Phila. ... 1912
PRIEST, RALPH N., 1627 Sansom St., Phila., Pa ... 1918
PUMYEA, NELSON D. W., Mt. Holly, N. J. ... 1916
RIDDLE, ROBERT, 21 W. Rogers Ave., Merchantville, N. J. ... 1916
RIDDLE, S. EARL, Box 402, Chester, Pa. ... 1910
RHOADS, CHARLES J., Rittenhouse Sq., Phila., Pa ... 1914
ROBINSON, ANTHONY W., 409 Chestnut St., Phila., Pa. ... 1898
ROLAND, CONRAD K., 1208 DeKalb St., Norristown, Pa. ... 1917
SANGREE, CARL M., Union Theol. Sem., New York, N. Y. ... 1917
SCHELL, JOHN W., Drexel Building, Phila., Pa. ... 1917
SCHEUING, WILLIAM B., 317 N. 63rd St., Phila., Pa. ... 1893
SELLIEZ, EDWARD A., Box 469, Phila., Pa. ... 1902
SERRILL, WILLIAM J., 1401 Arch St., Phila., Pa. ... 1891
SHERRERD, DONALD, 9 West Brown St., Princeton, N. J. ... 1913
SHERRILL, ARTHUR MILES, Delmar-Morris Apts., Gtn., Phila., Pa. ... 1918
SIBLEY, WALTER G., 6626 McCallum St., Germantown, Phila., Pa. ... 1900
SMITH, LOUIS IRVIN, JR., 3908 Chestnut St., Phila., Pa. ... 1901
SPENCER, THEODORE, JR., Haverford, Pa. ... 1916
STYER, J. FRANKLIN, Concordville, Pa. ... 1917
SUDDERS, JOSEPH D., Olney, Pa. ... 1910
TATNALL, SAMUEL A., 409 Chestnut St., Phila., Pa. ... 1910
TATUM, JOSEPH W., Audubon, N. J. ... 1892
TOMLIN, F. H., D. D. S., Haddonfield, N. J. ... 1909
TROTTER, WILLIAM H., Chestnut Hill, Phila., Pa. ... 1899
TUCKER, MAJOR HENRY, M. D., 2000 Pine Street, Phila., Pa. ... 1906
UNDERDOWN, HENRY T., 409 Chestnut St., Phila., Pa ... 1918
VOELKER, CHARLES A., Aldan, Delaware Co., Pa. ... Founder.
VOSBURG, PAUL, Franklin Bank Bldg., Phila., Pa. ... 1905
WHEELER, PROF. A. L., Bryn Mawr, Pa. ... 1905
WHITAKER, ALBERT, Cedar Grove, Frankford, Phila., Pa. ... 1896
WHITAKER, JAMES L., Cedar Grove, Frankford, Phila., Pa. ... 1904
WILDMAN, EDWARD L., 4331 Osage Avenue, Phila., Pa. ... 1914
WOOD, LIEUT. GEORGE B., M. D., 129 S. 18th St., Phila., Pa. ... 1917
WOOLMAN, EDWARD, Haverford, Pa. ... 1915
WOOLMAN, EDWARD W., 44 N. 38th St., Phila., Pa. ... 1902

HONORARY MEMBER.

ABBOTT, WILLIAM LOUIS, M. D., Aldine Hotel, Phila., Pa. 1912

CORRESPONDING MEMBERS.

AUSTIN, LIEUT. J. HAROLD, M. D., New York City 1903
BAKER, CHARLES H., Verona, Allegheny Co., Pa. 1900
BAYNARD, O. E., Clearwater, Fla. 1911
BEANS, THOMAS J., Moorestown, N. J. 1895
BEHR, HERMAN, Lansdale, Pa. 1897
BEHR, OTTO, Lopez, Sullivan Co., Pa. 1897
BOWDISH, B. S., Demarest, N. J. 1913
BULLER, W. H., Marietta, Lancaster Co., Pa. 1895
BURLEIGH, THOMAS D., 825 Negley Ave., Pittsburgh, Pa. 1917
BUVINGER, LIEUT. CHARLES W., M. D., Newark, N. J. 1900
COGGINS, HERBERT L., 463 14th St., Oakland, Cal. 1897
COLE, STIRLING W., Cape May Court House, N. J. 1904
DICKEY, SAMUEL S., Waynesburg, Pa. 1917
EASTMAN, MAJOR F. B., U. S. A., Ft. Leavenworth, Kas. 1898
FARR, MARCUS S., Princeton, N. J. 1901
FRY, REV. HENRY J., Mt. Vernon, N. Y. 1915
GITHENS, ALFRED M., New York City, N. Y. 1895
GRAHAM, HARRY L., Redlands, Cal. 1897
GROSH, ALLEN H., Washington, D. C. 1900
HAND, H. WALKER, 1002 Washington St., Cape May, N. J. 1900
HARLOW, LIEUT. RICHARD C., State College, Pa. 1904
HUNT, CHRESWELL J., Oak Park, Ill. 1902
JACKSON, THOMAS H., West Chester, Pa. 1895
JACOBS, J. WARREN, Waynesburg, Greene Co., Pa. 1895
KEIM, THOMAS D., Steelton, N. J. 1902
KESTER, RAYMOND, Williamsport, Pa. 1892
LADD, SAMUEL B., Reading, Pa. 1895
LIEBELSPERGER, W. H., Fleetwood, Pa. 1913
LORRILLIERE, PAUL L., Baltimore, Md. 1904
MCREYNOLDS, GEORGE, Doylestown, Pa. 1917
MARX, CAPT. EDW. J. F., Easton, Pa. 1909
MILLER, WALDRON DEW., Plainfield, N. J. 1900
OTTEMILLER, FREE, 30 N. Pine St., York, Pa. 1917
PANGBURN, MAJOR CLIFFORD H., New Haven, Conn. 1916
PEARSON, LEONARD S., Baltimore, Md. 1908
PEET, MAX M., M. D., Ann Arbor, Mich. 1913
PENNELL, HOWARD Y., M. D., Downington, Pa. 1894
PHILIPP, P. B., 220 Broadway, New York City 1917
PHILLIPS, A. H., Princeton, N. J. 1895
POOLE, EARL L., Reading, Pa. 1910
REDFIELD, ALFRED C., Cambridge, Mass. 1908

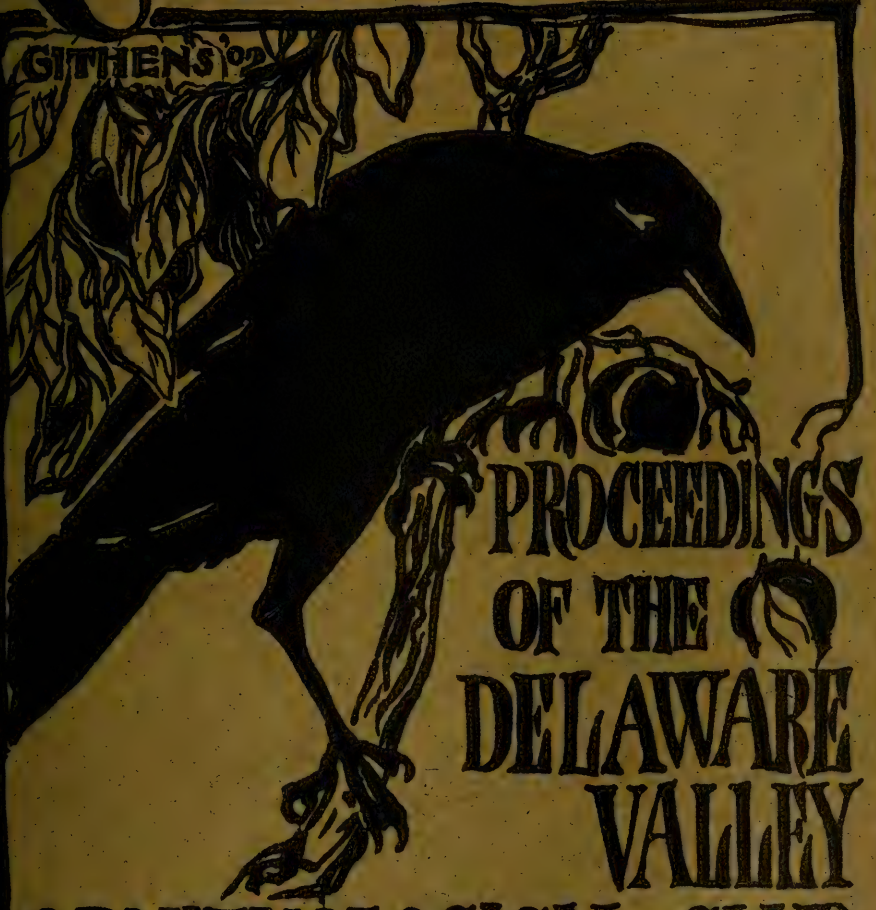
REGAR, H. SEVERN, Norristown, Pa. 1917
RODDY, H. JUSTIN, State Normal School, Millersville, Pa. 1895
ROGERS, CHAS. H., American Museum Natural History, New York.. 1905
SHARPLES, ROBERT P., West Chester, Pa. 1906
SILVESTER, CAPTAIN C. F., Princeton, N. J. 1901
SIMPSON, R. B., Warren, Warren Co., Pa. 1907
SORENSEN, FREDERICK, Chalmersgarten, Gothenburg, Sweden 1900
SPAETH, REYNOLD A., New Haven, Conn. 1901
STACK, FREDERICK W., Doubleday, Page & Co., New York City.... 1905
STONE, HUGH E., Coatesville, Pa. 1895
TODD, W. E. CLYDE, Carnegie Museum, Pittsburgh, Pa. 1895
WARRINGTON, HENRY, San Francisco, Cal. 1896
WHITAKER, WILLIAM L., Ada, Okla. 1893
WISLER, J. JAY, Columbia, Pa. 1904
YOUNG, ROBERT T., PH. D., State University, N. Dakota..... 1892

DECEASED MEMBERS.

	Died.
BENNERS, LIEUTENANT ARCHIBALD	July 3, 1918
BROWN, JOHN FARNUM, Active Member	May 13, 1894
BUSH, WALTER D., Corresponding Member	Aug. 11, 1904
CRISPIN, WILLIAM B., Corresponding Member	May 9, 1913
DETWILER, JOHN W., M. D., Corresponding Member	Sept. 26, 1898
EVANS, ERNEST M., Associate Member	June 29, 1911
GRIFFITHS, BARTRAM W., Associate Member	Dec. 21, 1916
HALES, HENRY T., Corresponding Member	Nov. 6, 1913
HOLMES, LARUE K., Corresponding Member	May 10, 1900
HOOPES, JOSIAH, Corresponding Member	Jan. 16, 1904
KOCH, AUGUST, Corresponding Member	Feb. 15, 1907
MOORE, GILBERT H., Associate Member	May 28, 1899
ONDERDONK, ELMER, Associate Member	Sept. 4, 1913
OWEN, FREDERICK N., Associate Member	Dec. 27, 1905
NEWBOLD, WILLIAM HENRY, Associate Member	May 25, 1917
PATTERSON, WILLIAM, Corresponding Member	Aug. 27, 1900
PENNOCK, CHAS. J., Active Member (disappeared)	May 15, 1913
PLATT, CHAS. 3RD	August 21, 1918
RAUB, M. W., M. D., Corresponding Member	Aug. 8, 1914
RAWLE, FRANCIS W., Associate Member	June 12, 1911
SEISS, C. FEW, Corresponding Member	Sept. 5, 1915
SHEPPARD, EDWIN, Corresponding Member	April 7, 1904
SMITH, WILLIAM W., Associate Member	July 3, 1892
WELLES, CHARLES S., Associate Member	Feb. 24, 1914
WERNER, WILLIAM H., Corresponding Member	May 13, 1912
WOODHOUSE, SAMUEL W., M. D., Honorary Member	Oct. 23, 1904
WRIGHT, SAMUEL, Active Member	Jan. 18, 1917
WINDLE, FRANCIS, Associate Member	Feb. 24, 1917

CASSINIA

A BIRD ANNUAL



PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB OF PHILADELPHIA

1919

249793

ISSUED OCTOBER, 1920

CASSINIA

An Annual Devoted to the Ornithology of Pennsylvania, New Jersey, and Delaware

CONTENTS 1918

		PAGE
William Loyd Baily, Sr. (*Frontispiece portrait*)	WILLIAM L. BAILY	1
The Pileated Woodpecker (*Plate*)	SAMUEL SCOVILLE, JR.	14
Report on the Spring Migration of 1919	WITMER STONE	23
Abstract of the Proceedings of the Delaware Valley Ornithological Club for 1919	JULIAN K. POTTER	40
Club Notes		45
Bibliography, 1919		47
List of Officers and Members of the D. V. O. C., 1920		50
Index to Species		55

PUBLICATIONS OF THE D. V. O. C.

The Birds of Eastern Pennsylvania and New Jersey, by Witmer Stone, pp. 176 with two maps and portrait of Alex. Wilson. One Dollar and a half. (Post paid, $1.62)

Abstract of Proceedings, Full Set Nos. I–IV. (1890–1900) pp. 98, Fifty cents

Cassinia, published annually beginning with 1901; comprising papers relating to the Ornithology of Pennsylvania, New Jersey and Delaware, and an abstract of the proceedings of the Club. Edited beginning with No. XX, 1916, by Spencer Trotter. Subscription price Fifty cents

Back numbers of most issues still obtainable at subscription prices.

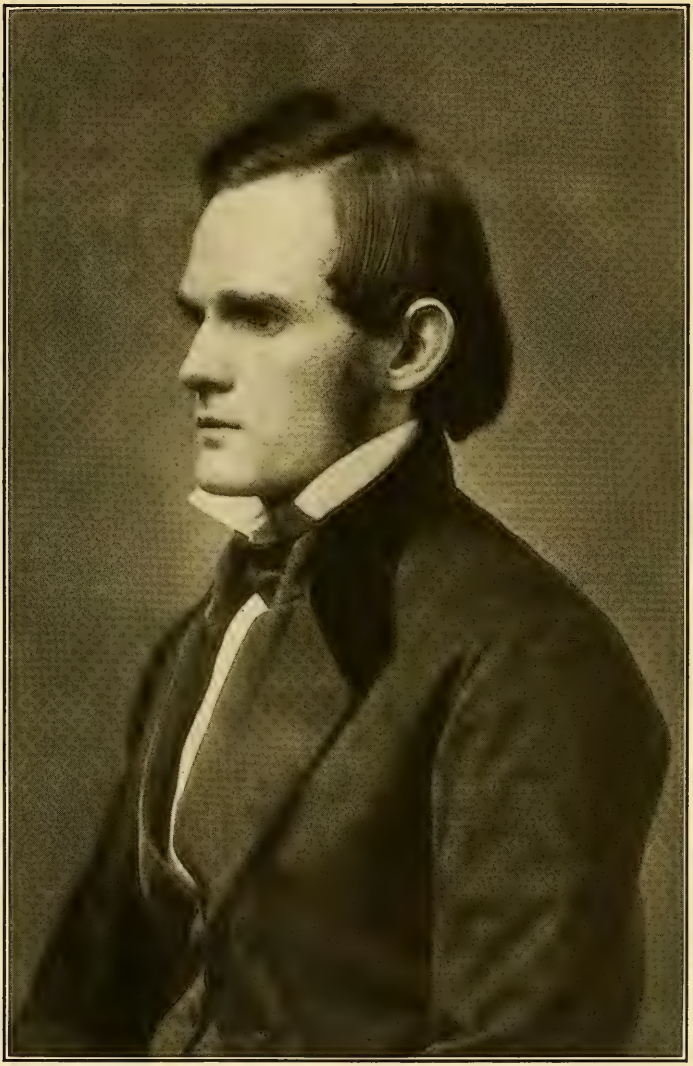
Address **Delaware Valley Ornithological Club,**
Care **Academy of Natural Sciences,**
Logan Square, Philadelphia.

Contributed articles, books, and all publications should be sent to Dr. Spencer Trotter, Swarthmore College, Swarthmore, Pa.

Publication Committee

GEORGE SPENCER MORRIS, *Chairman,*

SAMUEL C. PALMER, WITMER STONE, SPENCER TROTTER.



William L. Baily.

CASSINIA

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB

No. XXIII. PHILADELPHIA, PA. 1919.

William Loyd Baily, Sr.

BY WM. L. BAILY

This attempt to present a short account of the life of my uncle, whose name I bear, has been made with very limited information; but "before the dust of ages any further dims the fragments" at hand, it is thought high time that a record should be made of one whose life was not only exemplary, but who by his rare accomplishments is entitled to recognition among the eminent naturalists of his day.

William Loyd Baily, son of Joshua Baily, Jr., and Elizabeth Loyd was born May 28, 1828, and died March 25, 1861, in the thirty-third year of his age.

His father was a dry-goods merchant of the firm of Longstreth & Baily, Philadelphia, and his mother, the daughter of Thomas Loyd, a prominent merchant of the same city, and a lineal descendant of Thomas Loyd of Wales who came to this country among the early colonists of William Penn. William Baily, the youngest of seven children, was born in Church Alley west of Second, then a residential street, and under the shadow of the famous Christ Church. Soon after the death of his father in

1832, and when he was about four years old the family moved to 1309 Filbert Street (old number 139), adjoining the spacious house and flower garden of William's uncle, Isaac Loyd.

Although I have made a careful search, I have so far been able to find only a few letters referring to his early life, and no lists or note-book data of any kind referring to birds, flowers, etc., to which so much of his attention was devoted. Most of his letters refer principally to family interests and have little value in connection with the scientific side of his life.

One of the earliest letters that I have found was written to his mother when he was thirteen years old, from Westtown, Chester Co., Pa., where he then attended school and was dated third month, 1841. The letter says: "I have succeeded in making a forcing pump which throws a continued stream, but does not throw it far, and also an engine which does not send a very good stream, but sends what it does all the way across the wash room nearly. Please send me a little cement."

His mother and brothers lived at the time at the Filbert Street house, and although the woods and fields were not far away, no doubt William found the beautiful country around Westtown most congenial to his study of natural history, notwithstanding his mind was bent upon mechanical pursuits as well.

The account of Wm. L. Baily in the "Baily Genealogy", edited by Gilbert Cope, reads as follows: "On leaving school he joined his brothers in the dry-goods business; at the same time he gave much attention to mechanical pursuits for which he seemed to have a predilection. Many articles elaborately constructed attested his ingenuity and skill. Among these was a power loom for weaving tapestries, an invention he did not live to perfect, but his ideas were availed of by others who carried his work to completion.

"A close student of nature from early life; trees, flowers and birds were his familiar companions. His opportunities for pursuing such studies were greatly increased in his later years, when failure of health made outdoor life more desirable. He was proficient both with pencil and brush, and he invented a process for reproducing on paper the brilliant hues, especially

of hummingbirds, an art which obtained for him much credit among ornithologists both in this country and abroad. As a taxidermist he had few amateur equals, as many of his prepared specimens show. He published a little book on 'Wild Flowers' and another entitled 'Our Own Birds', which became quite popular and went through several editions."

His correspondence indicated that he had scarcely become of age when his health began to break down, with a gradually weakening effect, and during the last few months of his life he was confined to his bed. Even though bedridden, he was still deeply engrossed with his favorite work. He had published his book on "Trees, Plants and Flowers", about 1857, but his bird book was still unpublished when he died. John Collins, his brother-in-law and close friend, read over to him the concluding paragraph of "Our Own Birds" on March ninth, 1861, about two weeks before his death, and shortly afterward completed on wood two bird plates from Audubon, the last two for the book. John Collins also aided him in the preparation of his work on the hummingbirds hereafter referred to.

The following minute made about three months before William's death is interesting in this connection: "At a meeting of the Executive Committee of the Association of Friends for the Diffusion of Religious and useful knowledge, held 1 Mo. 1, 1861. A communication was now received from our friend William L. Baily, offering us for publication a manuscript prepared by himself on the birds of America, accompanied with a subscription of one hundred dollars toward the cost of stereotype plates and engravings.

"This very liberal offer was accepted, and the Secretary was directed to send a copy of this minute to the author, with the thanks of the Committee.

"Taken from the Minutes.

JOSEPH POTTS,
Secretary."

The book was published in 1863, two years after his death, by the Association above mentioned, and being written in a popular style had a wide circulation. In those days it could be found upon the shelves of most ornithologists and lovers of

birds. A second edition was published in 1869 by J. B. Lippincott & Co., a third edition appeared in 1879 and a fourth in 1885. His publication on "Trees, Plants and Flowers" was incorporated with the edition of 1879.

I have in my possession an undated manuscript book entitled "Wrens and Warbler Plates", with pictures drawn and colored presumably while yet in his teens, and although they are not nearly up to the standard of his later work, they show care, neatness and system.

His greatest achievement, however, was his hand-painted work on the "Trochilidae" (Humming Birds) which stands out boldly as an example of unusual skill and ability and imparts a clear knowledge of the subject in hand. In the fifty-three plates comprised in the four parts all but a few of the birds are his own poses. and although he never saw but one living species of hummingbird, the Rubythroat, his sketches of other birds must have aided him in bringing to life as it were, the dead skins before him. It is possible, too, that he made his drawings from his own mounted specimens, and from specimens at the Academy of Natural Sciences, which he mentions in at least one instance.

It must also be taken into account that these drawings are originals which were never reproduced and had not the advantage of the engraver's touch or corrections, upon which artists are often so much dependent. Particular comment has been made by experts who have examined this work on the life-like pose of the birds, the perfect balance of the body, whether in the air or at rest, and especially on the harmony of the color and selection of the flowers which appear with nearly every plate. The species represented, as the preface states, are birds of the far west, Central and South America, many of them rare varieties. The text is also all handwork and the title page of each part is especially well executed. The four bound volumes in which the work is arranged are quarto size and the plates are drawn on rough-surfaced, cream-tinted bristol board.

The first part was largely prepared in 1854, and with the second was completed in 1855; the third part was completed in 1857 and the fourth in 1858, although the last was never en-

tirely finished as to the text and a few of the plates, due no doubt to the author's failing health.

The text gives the common and scientific name of each bird, dimensions, habitat and a short description of its habits, nesting, etc., and in the case of rare species the name of the collector. For instance the California Bluebeard, he described as having been discovered by a party under the command of Lt. Whipple on the Colorado River during the winter of 1853–54, from which specimens his drawing was made.

The introduction to Part 2 which he entitled "Haunts and Habits of Humming Birds", is a very interesting description of the main characteristics of the family, which comprised three hundred and twenty species at the date of his writing. He makes particular mention of the fact that the recent discoveries of species was particularly "due to the energetic exertions of John Gould, whose collectors had distributed themselves throughout America in search of new varieties". No doubt Baily's correspondence with such collectors resulted in bringing to hand many specimens from which he prepared his plates.

William Baily was also interested in minerals as in indicated by the portion of a letter dated Millville, 8/10/1847, from one Theophilus, and when William was 19 years old: "The notice of thy visit to Concordville and of our friends the Trimbles was interesting, although I did not expect thee would get the mineral fever again, as years ago that gave way to the bird stuffing mania, and I thought it was a disease of which we need not fear a recurrence."

Perhaps his most interesting accomplishment was his invention of portraying on paper the iridescence on the plumage of hummingbirds. Some letters, of which I possess the originals, illustrate several interesting facts concerning this unique and valuable process. These letters show that as early as 1854 William Baily had used the process and had shown and sent samples of his work to various ornithologists and friends. John Gould had already published six parts of his "Monograph of the Trochilidae", when in reply to a letter from Wm. Baily he wrote as follows:

London, 20 Broad Street,
Golden Square,
Oct. 19, 1854.

My dear Sir:

On my return to London after a seven weeks' absence, I find your friendly letter of the 31st of August and beg you will accept my best thanks for the interest you are pleased to express in my work on the Trochilidae and the suggestion you have made for its improvement. I have not yet had time to ascertain its value, but will take an early opportunity of doing so; in the meantime, if you could carry into effect your kind offer to send me one or two of your plates for inspection, I would be obliged. As you will see by the enclosed, the value of Gelatine as a transparent medium has not escaped my notice, as I have printed on it, but I had not thought of employing it in the way you mention. Any hints therefore as to the mode of the application, etc., will be acceptable to me.

I regret to say I cannot let you have any particular part of the Trochilidae, as were I to do so, I could not replace it and thus a copy of the entire work would be spoiled. Most of the copies are already subscribed for, and I have little doubt that like some of my other publications, every copy will be sold by the time it is completed. You are probably aware that it appears at the rate of 2 parts a year, price three Guineas each. Six parts have appeared, and I should not object to receive a subscriber's name who would take 3 parts a year until he has arrived at the current numbers for the year, when of course, he would only have to take two. Perhaps such an arrangement might suit you.

Reciprocating your good feelings,

I remain,
My dear Sir,
Yours very truly,
John Gould.

In March of the following year, 1855, another letter written to Gould was replied to on August 8, of the same year as follows:

London, 20 Broad St.,
Golden Square,
August 8, 1855.

My dear Sir:

Your friend Mr. Sharpe duly forwarded me your letter of the 3rd of March and the accompanying drawings, for which I beg you will accept my best thanks. I have examined them with much interest and certainly consider them to be very superior, the Bartail especially being very near to nature. I fear, however, I shall not be able to turn your kind attention to account, my own process being performed with greater rapidity, besides which the making of a single or a few drawings being one thing, the preparation of many thou-

sands another. In the account you have kindly sent me of your modus operandi, you say, "previous to taking my impression, I print the gold or silver foil in its proper place". This passage I do not quite understand; perhaps when you next write, you will be so good as to render your meaning a little more clear. With respect to sending you a list of the Hummingbirds inhabiting the North American Continent north of the Isthmus of Panama, I regret to say that it is not possible for me to do this, as at present a correct or satisfactory list cannot be made; still it may be ere long, as my work on the Trochilidae is now fast drawing to a close; the two parts for the present year are ready, and will soon be sent to Philadelphia. When you have an opportunity of examining them, I feel assured you will be much pleased with the numerous interesting species you will find therein.

As soon as I have a moment of leisure, I will select a few impressions from my duplicate plates I may have over, and beg you to accept them in return for those you have so kindly sent me. Perhaps you will say how they may best be forwarded to you? I presume as I have not seen Mr. Sharpe that he has returned ere this; if not, he would probably take charge of them. In the meantime, I remain,

My dear Sir,
Yours very truly,
JOHN GOULD.

A third letter from Mr. Gould is especially significant in showing that he was to some extent dependent upon his friend in America in procuring rare specimens of birds, offering however compensation to the collector of the specimens. Baily had evidently offered to furnish the specimens referred to, and no doubt considered it a pleasure to supply them to his distinguished English acquaintance. Gould's proposed trip to America is an interesting item of the letter, which is here given in full:

LONDON, 20 BROAD STREET,
GOLDEN SQUARE,
JUNE 4, 1856.

My dear Sir:

I am in receipt of your little parcel containing a plate and description of *Mellisuga albocoronata* for which I am much obliged. I have been aware of the existence of this bird for some time, and have also had by me for some months a copy of the publication from which the above were taken, but the bird itself I do not possess, it being one of the new species not contained in my collection. You will therefore confer a very great favor by procuring me some specimens. I am willing to pay the collector any reasonable amount for 3 or 4 good males and a female. Of course, if so many cannot be procured, I

must of course be satisfied with what I can get. My reason for requiring 3 or 4 males is this: I mount my birds in groups and give a compartment in a case to each species. I will either remit money for these birds or an equivalent in species you do not possess, and I may have to spare, as may be most agreeable to you. Whether the remittance be in money or birds, it shall be made as soon as I receive the specimens. I say this because I must plead guilty of neglect in not sending you the plates I have so long promised you; that is not, however, altogether my fault, as I gave orders that they should be sent in Mr. Wilson's parcel last year, which I find was not done. I am now, however, engaged in preparing plates 11 and 12, and will take care that you are thought of when they are forwarded. I had intended to have written out to Belan to obtain specimens of the *Mellisuga albocoronata*, but shall now avail myself of your obliging offer. Could you not at this moment procure me a male and a female? as I much wish to see them. Others might follow at your convenience. I am also very desirous of obtaining 2 or 3 specimens of the Hook-billed species *Eutoseres aquila* which flies in the same forest with the *M. albocoronata* where also will doubtless be found other fine species with which you are more likely to become acquainted in America than we are in London. If any novelties should come to hand, I should be very glad of a line saying what they are. It is just possible I may be in America next year, and have the pleasure of seeing you and your improvements in coloring in which I am very glad to hear of your success. In the meantime, hoping soon to have a few lines from you in reply to this troublesome communication, I remain

My dear Sir,

Yours very truly,

JOHN GOULD.

The following letter from Victor G. Audubon, son of John J. Audubon, indicated that William Baily had communicated his process of coloring to other publishers:

NEW YORK, FEB. 27, 1855.

WM. L. BAILY, ESQ.,
Philadelphia, Pa.

Dear Sir:

Your esteemed favor of the 24th inst. came to hand yesterday, and received my attention.

I hope to be in Philadelphia next week and will then call and see you, and examine the new method by which you color the Hummingbirds, and talk with you on the subject of my new edition of the "Birds of America".

Yours my dear Sir,

Very truly,

V. G. AUDUBON.

Under date of March 26, 1855, J. H. McIlvain of Philadel-

phia writes to Wm. L. Baily thanking him for the beautiful picture of the male and female Cape May Warbler which he "accepts with special favor". He adds: "Permit me to remark that they are beautiful and indicate artistic taste and quality of execution in a high degree, in which I am not fulsome. They are a spirited facsimile of Audubon, but in my opinion had thee had recourse to the natural subject, thee would have excelled him, in truthfulness and delineation."

On November 10, 1855, Geo. N. Lawrence says: "The remarkable drawing of Humming Birds is very beautiful and remarkably true to nature; the metallic coloring is very fine in effect and different from anything of the kind I have heretofore seen. If Gould has availed himself of your instructions in using these tints, he certainly should acknowledge it in his work."

Again on July 2, 1856, Mr. Lawrence writes: "I was much gratified to find the Humming Bird so favorably thought of by Mr. Gould."

In the preface of John Gould's superb "Monograph of the Trochilidae", Vol. 1, p. vii, is contained the following paragraph:

"Numerous attempts have been made at various times to give something like a representation of the glittering hues with which this group of birds is adorned; but all had ended in disappointment and the subject seemed so fraught with difficulty that I at first dispaired of its accomplishment. I determined, however, to make the trial, and, after a series of lengthened, troublesome, and costly experiments, I have, I trust, partially, if not completely succeeded. Similar attempts were simultaneously carried on in America by Wm. L. Baily, Esq., who with the utmost kindness and liberality explained his process to me and although I have not adopted it, I must in fairness admit that it is fully as successful as my own. I shall always entertain a lively remembrance of the pleasant day I spent with this gentleman in Philadelphia. It was in his company that I first saw a living Humming Bird, in a garden which has become classic ground to all true Americans, from the pleasing associations connected with its former possessor, the great and good Bartram, and from its having been one of the haunts of the celebrated Wilson, than whom no one has written more pleasingly on the only species of this family which inhabit that part of North America, the *Trochilus Colubris*."

In Gould's account of the Rubythroat (Vol III, p. 131), he says:

"It was on the 21st of May, 1857, that my earnest day thoughts and not infrequent night-dreams of thirty years were realized by the sight of a Humming Bird. The period of my visit to America being somewhat early in the season my attempts to discover a living 'Hummer' in the neighborhood of New York during the second week of May were futile, and it was not until I arrived at the more southern city of Philadelphia that my wish was gratified by the sight of a single male in the celebrated Bartram's Gardens, whither I was conducted by my friend Mr. Wm. L. Baily, from whom I also received many other kind attentions.

"The almost total absence of Humming Birds around Philadelphia proved to me that I was still too early for them, the lateness of the season of 1857 having retarded their movement. I therefore, determined to proceed further south to Washington, where in the gardens of the Capitol, I had the pleasure of meeting with them in great numbers; in lieu of the single individual in Bartram's Gardens, I was now gratified by the sight of from fifty to sixty on a single tree."

It has always been represented by different members of the Baily family including his own brothers that William L. Baily was the first to obtain the iridescent effect on colored drawings of Hummingbirds, and also that John Gould made use of the process of which Baily had given him the exact details. The foregoing correspondence shows that Baily had as early as August 31, 1854, devised the process for obtaining iridescent effects and had so written under the above date a friendly letter to Gould gratuitously offering his method as an improvement upon Gould's. Gould acknowledges in his reply that he has up to that time not thought of employing gelatine in the way Baily mentioned, and asks Baily to carry into effect his kind offer to send him one or two plates for inspection. He also continues, "Any hints therefore as to the mode of application will be acceptable". It is also a fact that up to that time no goldleaf iridescent coloring had been used on Gould's plates of Hummingbirds of which six parts had already been published. I have been unable to find in the letters to William Baily any description of Gould's process or any evidence that Baily had knowledge of or had asked for Gould's method. Mr. Gould also acknowledges that Baily had given him the first idea of this remarkable improvement which Baily had already perfected, but when the preface of his book was written sometime later

his memory seems to have failed him when he mentioned his own and Baily's simultaneous attempts.

That a kindly feeling existed between Gould and Baily is evident not only in Gould's preface above quoted, but also in the preface of Baily's book which is herewith presented from his "Trochilidae," part 2, page 14, 1855, as follows:

"Linnaeus classified them (the Humming Birds) under the generic name of Trochilus to which in the present work I have preferred adhering, in order to avoid all errors into which subsequent naturalists may have fallen in their anxiety to explain more fully the distinguishing features of the separate species. Yet I cannot but admire the indefatigable zeal manifested by Gould in defining the limits, and arranging the species of each of the subgenera and adopting a nomenclature, suited to their peculiarities, and to whose zeal and deep research his beautiful work on the Trochilidae must ever stand as a monument."

Baily's admiration for Gould prompted him to adorn his third part of Trochilidae with a portrait of his friend as a frontispiece. There must have been also some reciprocal understanding between them in the preparation of their works, as the following quotation taken from the preface of Part I shows: "In preparing the following illustrations, in a few instances I have acted the part of a mere copyist, although I have mostly taken nature as the guide and have endeavored to follow it closely." As to the text he adds: "For the most reliable information relating to some obscure species I am indebted mostly to my friend John Gould of London, whose excellent work now in course of publication has proved a valuable assistant and from which I have borrowed largely."

Baily was not a collector in the usual sense of the word, as he was never known to have killed a bird. His sketching was largely done in the open from the natural bird, and his nephew, Dr. Alfred W. Baily, still remembers him very vividly making outdoor sketches of birds in their various attitudes, making at least twenty in one instance, of details and poses. He delighted in his work, especially in opportunities of this kind. Those who knew him have stated to me that he had a most kindly nature, was polite and considerate to those around him, always interesting, and was the soul of openheartedness and unselfish-

ness. If he knew anything or had anything that he thought would help someone else, it was his even without asking, and he never thought of reserving any credit to himself. He was so honest that he expected others to be honest. He apparently made no collection of eggs, and the skins obtained through others and which he so beautifully transformed into mounted specimens, attest his remarkable skill as a taxidermist. He was not only in the habit of sending bird pictures to his friends and relatives but of giving away mounted birds, some of them artistically grouped under glass cases, one of which the writer owns. The specimens in this case are in a remarkably good condition. They consist principally of foreign birds, the central one being an English Cuckoo, and all are mounted in wonderfully life-like postures.

His knowledge of trees, flowers, and even minerals was considerable, as his little book on "Trees, Plants and Flowers" shows. He lived at a time when the ornithologists of Philadelphia were most alive in the search of bird knowledge, and extended collecting trips to the West and to Central America were indulged in by those men whose fame has come down to us as the discoverers of many birds well known to us to-day.

He was an intimate correspondent of George N. Lawrence who supplied him to some extent with Hummingbirds from the tropics; also of J. G. Bell who made a large collection of Hummingbirds, J. H. McIlvain, John Cassin, Spencer F. Baird, V. G. Audubon and Asa Gray the botanist.

On account of declining health he was obliged to give up the business of dry goods which he carried on with his brothers, and to seek the country air. For several years, beginning in the spring of 1856, he spent much time with his brother Thomas, who had taken to farming at Rockton near West Chester. His winters were spent with his mother and aunts at 1309 Filbert St., where his niece Mrs. Joseph P. Remington, daughter of John Collins, well remembers his studious work on the Hummingbird books.

Records show that he visited Newport, R. I., June 13, 1856, where he went especially to attend the Yearly Meeting of the Friends. On July 23, 1856, he was at Kirkwood, Penna.,

where his brother had moved from Rockton, and was there again in June, 1857. He speaks of a visit to Haverford College, July 18, 1856, to see his brother-in-law Johnny Lang. May 13, 1857, he made a trip by sea to Charlestown, S. C., and speaks of seeing a school of whales. From there he went to Aiken, S. C., evidently a health resort.

Ever since 1849 when he was 21 years old he has referred to his cough, and at Lenox, Mass., in 1851, he refers to the pain caused by leaning over to write. He visited Clearfield in the Allegheny Mountains, June 26, 1852, with his brother Thomas. On his way to Aiken five years later he speaks of his condition as discouraging, but as well satisfied with his lot.

He was at Cape May, N. J., in May, the year uncertain. These few localities which are about all I can find any mention of, indicate that his travels were very limited, and I regret to find in his letters almost no mention of birds except in the most general terms.

A number of bills for the purchase of horses and buggies and for horse hire are evidence that he was obliged to drive or ride a great deal of his time even as far back as 1852 and 1853, and no doubt his favorite haunts were reached by this method of conveyance.

Not the least of admiration is bestowed upon our modest ornithologist for his remarkable energy and patient persistence in the face of a wasting disease that kept tugging at his constitution during the entire twelve years of his maturity. Upon his death his body was interned in Friends' Burial Ground, Sixteenth and Race Sts., Philadelphia; but some years ago when it was proposed to use these grounds for school purposes, it was transferred to the Friends' Western Burial Grounds on Sixty-third St., where it now lies with the bodies of other members of the family.

The Pileated Woodpecker

BY SAMUEL SCOVILLE, JR.

For every bird student there is always some bird just beyond the horizon which he hopes to meet. This statement of course applies only to the common or garden variety of ornithologists to which I belong. There are some masters who have met everything that sings or flies. Probably the only thing that the future has for Dr. Witmer Stone is the Roc and the Phœnix, and undoubtedly Mr. Samuel Rhoads could describe even those gifted fowls if called upon.

For a long time the Prothonotary Warbler was the ideal of the writer. After acting as a galley slave for Stuart in a Maryland marsh my life was at last gladdened by a sight of that vivid bird of gold. Then the Northern Raven took first place in my hopes. A forty-two mile walk and harrying adventures by field and flood with Harlow made that bird a reality (see Atlantic Monthly, July, 1920). This last year I longed exceedingly for a sight of the Pileated Woodpecker, that magnificent woodpecker surpassed only by the lost Ivory-bill and which I find, in Juniata County, rejoices in the names of the cluck-cock and Indian hen. I always remember the thrill that came over me when on May 20, 1916, at Pocono Lake, Stuart showed me a hemlock tree with twenty-two great square holes like those in bar-ways cut deep in the live wood. He assured me that they were made by the Pileated Woodpecker. Afterwards when he showed me a large woolen nest made by a deer-mouse and told me that it belonged to a Golden-crowned Kinglet, I began to have my doubts about the woodpecker. Later, however, I was to learn that he was right and that the holes were feeding-holes of the Pileated.

My next experience with this bird was on March 9, 1918. I

From photograph by A. D. McGrew

1. NEST AND EGGS OF THE WILD TURKEY
2. PILEATED WOODPECKER AT NEST HOLE

was tramping over the mountains in a driving snow-storm with Harlow on the back way from a Raven's nest when he showed me scores of holes made by Pileated Woodpeckers in rather small trees near the top of a mountain. We saw no traces of any of the birds and I was so nearly frozen that probably I would not have recognized one if I had seen it.

My chance finally came in May, 1919. Harlow of State College is probably the best field-man in the United States and the only one who has ever found the nests of over one hundred different species of birds in a single season, his record being one hundred and one species in 1915. Accordingly when he promised to show me not only a Pileated Woodpecker but a Pileated Woodpecker's nest and eggs I was delighted. On the night of May 10, 1919, I met him in the smoking-room of a sleeper and the trip was on.

The next morning the intelligent porter informed us that we had three-quarters of an hour before reaching our station in Center County, Pa. I was shaving with nothing on but a shirt and a pair of shoes when the train stopped and the conductor told us we had just two minutes to get dressed and off the train. I put on one minute's worth of clothes, crammed the rest into my bag and covered with lather jumped off as the train started. As I ran the porter tried to explain that the train had made up time, evidently forty-five minutes in less than five.

We took a stage to the beginning of the mountains and crossed them to the lonely valley where the Pileated Woodpeckers live. This was on May 11, 1919. On the way over we discussed literature. Harlow felt strongly that all poets should be compelled by law to take a course in ornithology, having recently read a bit of verse in which the Bluebird and the Goldfinch were described as nesting at the same time.

On the way over we heard the Alder Flycatcher, the mating-notes of the Field Sparrow and the Hairy Woodpecker, while halfway up the mountain a Hummingbird came whirring through the rain like a great moth. Everywhere were the green and white of the flowering dogwood and the pure pink and white flowers of the azalea with their dark red stems, curved red stamens with golden ends and faint elusive odor of sandalwood.

Throughout the wet, cold woods the ground was covered with flights of the purple-pink butterfly-blossoms of the fringed polygala, each flower set in the middle of a cluster of irregular green leaves and flaring out into a pair of wide purple wings on either side of a hollow-fringed tongue. The color seemed to me to be almost identical with that of the calopogon. In one place I found a late spray of pure white trailing arbutus and farther along saw a fire-red salamander wreathed around a purple-pink polygala, the exact color-combination that I once saw on a friend's lawn where a Japanese quince blossomed next to a Judas bush.

Finally we reached the valley ringed around on every side by mountains and followed a fire line through the dripping spring woods. As we neared a live chestnut-oak tree with a dead heart where the ground was covered with large chips for a space of some thirty feet, out from a bhole aout thirty-five feet from the ground flapped a bird which seemed about the size of a crow with black, white-lined wings. Ordinarily a female Pileated Woodpecker will not leave her nest when she has eggs until the tree is tapped. Before she has eggs she will leave the nest when one is fifty yards away no matter how carefully the tree is approached. This nest went down nineteen inches, twenty inches being the average depth. All around in the neighboring trees were the square feeding-holes and numberless little testing holes made by the birds in live trees and dead ones alike, where they had explored to find if there was any trace of the larva of the long-horned white-pine borer on which they feed extensively. The nesting-hole was round and seemed about twice the size of that of a Flicker, being about three and one-half inches in diameter. Harlow told me that the bird often makes a number of trial nests before it finally carves out one to suit. May 10 is the standard date for a full clutch of eggs although the nest is frequently begun as early as March.

The second nest was on another hillside in a dead pitch pine some twenty-five feet up. The bird hardly ever uses the same nest twice. Harlow states that this has never happened to his knowledge but once. As we started toward the second nest we could hear the dull, heavy thudding through the wet air of the

Ruffed Grouse drumming. As we climbed toward the second tree a big male Pileated Woodpecker flew down the mountainside with a long, gliding flight. As it flew it gave its unmistakable call "Kek, kek, kek, kek, kek-o," something like a Flicker with a little quirk at the end. It did not seem to be so large as the first Pileated that we saw. It alighted on a tree fifty yards away and I could distinctly see its great red head and crest. The throat and a line from the bill on each side of the neck and breast together with the lining of the wings and the base of the larger wing feathers were white slightly tinged with yellow. The upper part of the head of the male, including its heavy pointed crest and mustaches, were a bright red. The female had only the rear of the head red with the rest of the head, including the mustaches, black. As we came near the female bird flew out, giving a different call—"Kek, kek, kek, kek, kek-e-ku". She looked as if she wore a red hat with a feather and when she preened herself with her great bill on the tree where she alighted, it was like watching a man shave himself with a sword.

The third nest we found in the depths of a swamp in a pignut hickory fifty-five feet high. The bird stuck her head out and flew away before the tree was reached. The nest was first located on March 30 at which time the bird had evidently been working on it for some time. The chips were widely scattered. The bird lit against the sky and I had a fine view of it. Neither the second nor the third birds seemed to be as large or impressive as the first. The third bird gave another note unlike the nesting-call, a kind of screeching call—"Shrr, shrr, shrr, shrr". She flew all around us three times, coming nearer and nearer. Finally she lit on the tree over our heads and went into a hole, something which Harlow said he had never seen before. She had the fringed black wings of a crow and hopped up toward the nest awkwardly. When we tapped the tree out came a great head with a black-striped throat. Then the male gave a fiercer and louder call; and as he came near the female answered him with a note like the "whick, whick" of a Flicker, only louder. Harlow had hunted in that particular ravine for four years but had never even seen a Pileated there

until in March of that year. As we watched the female came back and gave a loud rolling call perhaps forty or fifty times while the call of the male was repeated louder and fiercer and shriller than the female. The alarm note of the female was "Yuk, yuk". Once she flew over our heads and struck the tree with a smack that shook the stub and went up to the nest and flew away again repeating her "Yuk, yuk" call, always answered by the male. Harlow once brought the male close to us by imitating its call and another time the female by pounding on the tree. The head looked something like that of a Horned Grebe and the bird something like a Crow when it flies. Four times she came back, alighted on the tree and stood at the hole for nearly five minutes, sticking her head in, wagging it first from one side and then the other, but not seeming to dare go in after the first time. She showed so much anxiety that Harlow decided to climb the tree and take his chances on finding the set complete. The female flew away with a perfect volley of angry "yuks" while we stood below and called up various useful suggestions and warnings. Arrived at the nesting-hole he first stuffed a handkerchief down the hole to shield the eggs from flying chips and then locating the nest's direction, chopped into the tree. As the nest ran within two inches of the outer bark he uncovered the eggs almost instantly. There were four of them, glossy, white, sharp-pointed, each one about half again as large as that of a Flicker, a full clutch about four days incubated. Harlow then decided to investigate the second nest although he did not believe that the bird had laid a full set there. This time when he came to the stub the bird did not come out until he struck the tree twice. Then he could hear her hopping up and an enormous beak was thrust out of the hole and the female flew out, giving the wild nesting-call twice, always with the peculiar quirk at the finish. Besides myself there were in the party Burleigh who is a most indefatigable collector and a tireless climber and walker. He went to the front in France with a bird-book and field-glasses concealed in his uniform and was far more interested in Nightingales and Moor-hens than in the Boche. The other member of the party was McGrew who always carried about him the

largest camera in captivity aud collected photographs instead of eggs. It is owing to this said camera and the skill back of it that this article is illustrated. The second nest and its contents were to be the property of Burleigh. He climbed up to it with high hopes. The hole proved to be only six inches deep and broke out clear to the bottom when he pulled off a bit of the outer bark. Then came an oological tragedy. The wretched bird, contrary to all the customs and usages obtaining among well-regulated Pileated Woodpeckers, had actually hatched out two young birds. A third egg hatched in front of Burleigh's horrified eyes while the fourth, which was addled, he brought down and gave to me. I gave it to Stuart who put it with an odd one that he had procured in Canada years ago and it now graces his collection. Harlow had discovered the nest with great difficulty, the bird having actually built three false nests before he trailed her to this last and true one so that this last perfidious act on her part was on a par with what had gone before. If that female Pileated Woodpecker could have heard what Harlow and Burleigh said about her I doubt if she would ever have built another nest.

This last nest was my last sight of the Pileated Woodpecker, but the two days I spent in the valley were filled full of other bird adventures. There was the song for example of the Prairie Horned Lark, "Sippy, sippy, sippy," from mid-sky as he soared like the Sky-lark he is and with flattened wings and drooping tail dropped down at last almost at the spot from which he started. Harlow considers the nest a most difficult one to find because the bird flushes a long ways ahead and never comes back while the collector is around. Then there were the three deserted Sharp-shinned Hawk's nests he showed me in white-pine trees made entirely of sticks and about the size of Crows' nests; and the Broad-winged Hawk's nest in a maple tree forty feet from the ground being an old nest rebuilt and lined with fresh hemlock twigs and green leaves. Harlow also showed me a Field Sparrow's nest in a small bush about three feet from the ground with four almost pure white eggs with a wreath around the larger end, looking like the eggs of some rare Warbler. Then we ran into a wave of Nashville

Warblers in full song and heard a Rose-breasted Grosbeak caroling his way north and the liquid "Sweet, sweet, sweet" song of the Louisiana Water Thrush. Harlow, too, found a Cooper's Hawk's nest forty-five feet up in a white pine with five eggs, well incubated, bluish-white and lightly spotted. This country is interesting also from the fact that the Wild Turkeys still nest here occasionally, although we were not fortunate enough to see any.

Next to the Pileated Woodpeckers' nests my most interesting experiences on that trip were hearing the flight-song of the Woodcock and the owl-call of Harlow. I have been fortunate enough to hear the wing-song of the Wilson's Snipe and to see that bird drop from mid-sky to its nest, and I have seen and heard a Bittern boom and of course have heard—but never seen —the Ruffed Grouse drum; but until that trip with Harlow I had never heard the Woodcock. We started out in a misty rainy twilight and went into a wet marshy meadow with clumps of underbrush scattered here and there. As we walked we heard a Chat and then the scolding note of the Short-billed Marsh Wren, the first that I had heard since Street, Stuart, Potter and myself hunted for their nests at Newton, N. J. Suddenly over in an adjacent and still wetter meadow among the clicking and peeping of the cricket-frogs and hylas we heard a note which at a distance seemed to be identical with the note of a Nighthawk. When we came to within fifty yards of the bird on the ground it sounded more metallic and harsh. "Scaaap" is perhaps a good representation of it. Within that distance we also heard a note unreported so far as I know in any of the books, a bubble exactly like that made by pouring water out of a bottle. This bubble is preliminary to the scaaap. For some time this was repeated and then suddenly there started a twittering and in the half-light we could plainly see a Woodcock buzzing straight up through the air, twittering as he went. At the top of his flight at perhaps a hundred feet up he began to fly in circles widening and becoming more and more erratic. Finally when the circles were entirely broken the twittering, which continued during all of the circling, changed to a few loud rather sweet notes "Cheep, cheep" and suddenly the bird

dropped like a stone from the sky, landing nearly where he started from. As soon as he landed he instantly began to "scaaap" again. The next time he started his flight we ran at full speed and crouched down on our knees in the wet meadow at almost the exact spot from which he went up. When he dropped he landed directly between us and only a few feet away. As he saw us he stood up stiffly on his toes with a comical air of surprise and then hurriedly flew away. He kept up these performances one after the other until it was so dark that we could not see him fly. Two other birds were going through the same performance in a near-by field. Sometimes the bubble note came alone. Usually it was preliminary to the "scaaap". Harlow says that the performance is ended when the bird says "scaaap" while he is flying, which means "Good night." He also said that the Woodcock has a dawn-song of much shorter duration and the next morning at five-forty-five I heard the "scaaap" note twice.

It was on the second morning that Harlow revealed to me unsuspected resources. We had gone out to look for Wild Turkeys and in a hemlock swamp heard several Crows cawing in the sky overhead. Pulling me down among a mass of hemlock boughs, Harlow suddenly imitated the deep, sudden note of the Great Horned Owl to perfection, "Hoo, hoo-hoo, hoo, hoo," he croaked in a sepulchral voice that seemed to come from underground. It was as uncanny as Akela giving his hunting-call at noon. As soon as the Crows heard this midnight note of old Death-in-the-dark they cawed at the top of their voices and were almost instantly joined by others. Everytime Harlow would give the note it seemed to madden the Crows and would be met with a perfect chorus of screaming caws while Crows came streaming in from every quarter until the air was black with them, cawing and screaming and hunting in and out of the hemlock boughs for the owl. They seemed wild with anger and excitement, and as they flapped and cawed and dashed back and forth it reminded me of the scene in Gosta Berling where the Countess never dares to leave her house for fear of the Crows. When the deafening chorus was at its height Harlow suddenly stepped out from behind the boughs. In-

stantly the cawing ceased, the Crows disappeared and in a moment the deep marsh was all silence again.

The trip ended with a wonderful dinner which Mrs. Harlow and a friend brought over from State College and cooked in the cabin. Thereafter we whirled twenty-four miles over slippery mountain roads at full speed along the brink of eternity—and never once fell in.

Report of the Spring Migration of 1919

Forty-six schedules were returned by our corps of migration observers during 1919 as listed below. Additional observers are always desired and names of persons interested and able to keep such a record will be received with thanks if sent to Dr. Witmer Stone, Academy of Natural Sciences, Logan Square, Philadelphia.

New Jersey

Cape May, H. W. Hand.
Atlantic City, Mrs. N. S. Cromie.
Vineland, Mrs. A. K. Prince.
Downstown, W. W. Fair.
Camden, J. K. Potter.
Audubon, J. W. Tatum.
Mt. Holly, N. D. W. Pumyea.
Beverly, D. G. Baird.
Moorestown, Miss A. A. Mickle, S. S. Haines, M. A. Linton, W. B. Evans, Miss L. M. Jacob.
Moorestown, Mrs. V. Wierman.
Allentown, Miss Emma Gordon.
Bordentown, Miss M. V. Flynn.

Pennsylvania

Concordville, Miss E. P. and J. F. Styer.
Media, Dr. J. P. Moore.
Swarthmore, Dr. S. C. Palmer.
Swarthmore, P. E. Howard.
Swarthmore, H. M. Harrower.
Addingham, D. E. Culver.
Kintnersville, &c., R. L. Lloyd.
Lansdowne, J. D. Carter.
Lansdowne, W. E. Roberts.
Cobb's Creek Park—W. Phila. G. G. Mahy and E. P. Richardson.
Chestnut Hill, W. H. Trotter.
Germantown, Stewardson Brown.
Mt. Airy, S. A. and R. W. Barker.
Mt. Airy, A. F. Hagar.
Ardmore, W. L. Baily.
Haverford, W. J. Serrill.

Haverford, G. T. Scoville.
Haverford, Edw. Woolman.
Merion-Cynwyd, G. Beatty, Jr.
West Chester, R. P. Sharples.
West Chester, Miss S. C. De Haven.
West Chester, Dr. C. E. Ehinger.
West Chester — Westtown School, C. K. Himmelsbach.
Hatboro, Rev. A. Patman.
Langhorne, H. W. Fowler.
George School, Edw. Cocks and O. Raymond.
Oaks, C. K. Roland.
Buckingham, Miss S. C. Cox.
Buckingham, Miss. E. Broadhurst.
Doylestown, Geo. MacReynolds.
Collegeville, W. A. Kline.
Altoona, H. A. McGraw.
Lopez, Otto Behr.

Name.	Moorestown, N. J. N. 1; E. 12.	Camden, N. J. N. 0; E. 2.	Audubon, N. J. S. 4; E. 5.	Media, Pa. S. 2; W. 12.	Swarthmore, Pa. S. 3; W. 10.	Lansdowne, Pa. S. 1; W. 6.	Addingham, Pa. S. 1; W. 8.	Haverford and Ardmore, Pa. N. 4; W. 8.	Merion and Cynwyd, Pa. N. 3; W. 4.	W. Philadelphia. N. 0; W. 4.	Germantown, Phila. N. 6; W. 1.	Chestnut Hill, Phila. N. 8; W. 1.	Frankford, Phila. N. 5; E. 5.	Bulk Arrival, 1919.
Canada Goose	Apr.12	Apr.26	. . .	. . .	. . .	. . .	. . .	May 5	. . .	Apr.22	. . .	. . .	. .	. . .
Green Heron	May 8	May 3	Apr.13	May 10	May 18	. . .	. . .	Apr.13	. . .	Apr.18	May 3	. . .	Apr.21	Apr.21
Night Heron	Apr.23	Apr.10	May 11	Apr.26	. . .	. . .	May 4	. . .	. . .	Apr.18	Apr.19	. . .	Apr.21	Apr.19
Spotted Sandpiper	Apr.21	Apr.20	May 14	May 10	May 3	. . .	May 3	Apr.13	. . .	May 18	May 4	. . .	Apr.29	May 2
Solitary Sandpiper	May 6	May 8	May 14	. .	May 14	May 8	. . .	May 2	. . .	. . .	May 9	. . .	May 2	May 8
Killdeer	Mar. 1	Res.	Mar. 2	. . .	Mar. 5	Mar.13	. . .	Apr.11	. . .	Apr. 7	Apr. 7	. . .	Mar. 6	Mar.13
Dove	Mar. 3	Feb.16	Mar.23	Mar. 7	Mar. 2	Mar.23	. . .	Mar. 2	Mar.20	Feb. 26	Apr. 6	Mar.23	Mar.27	Mar. 9
Osprey	Apr.12	. . .	. . .	Mar.30	Apr. 8	. . .	May 11	Apr.13	. . .	Apr.18	Apr.22	. . .	Apr.17	Apr.17
Turkey Vulture	Res.	Feb. 8	Mar. 2	Res.	Res.	. . .	Mar. 9	Mar.30	. . .	Apr.18	Apr. 7	. . .	Mar.13	. . .
Yellow-billed Cuckoo	May 7	May 18	. . .	May 24	May 5	. . .	. . .	May 3	. . .	May 14	May 5	May 18	May 19	May 12
Black-billed Cuckoo.	May 6	. . .	. . .	. . .	May 18	. . .	. . .	. . .	. . .	May 24	. . .	. . .	. . .	. . .
Kingfisher	Res.	Res.	Mar.23	. . .	Mar.30	Feb.28	Apr. 3	Apr. 7	. . .	Mar. 8	Mar.23	Mar.25	Apr. 8	Mar.30
Yellow-bellied Sapsucker.	Res.	Apr. 9	. . .	Apr.12	Apr.17	Apr.13	. . .	Apr.12	. . .	May 2	Apr.22	. . .	. . .	Apr.12
Red-headed Woodpecker.	Mar.23	. . .	. . .	. . .	Mar. 1	May 8	May 11	May 5	. . .	Mar. 8	Apr.22	May 4	Apr.30	Apr.30
Flicker	Mar.16	Mar. 9	Jan.14	Mar. 7	Mar.19	Mar.12	. . .	Mar.26	Mar.20	Feb.22	Mar.21	Mar.20	Mar.25	Mar.17
Whip-poor-will	Apr.23	. . .	. . .	May 1	May 3	. . .	. . .	. . .	Apr.23	May 12	. . .	May 2	. . .	Apr.23
Nighthawk.	May 13	May 5	. . .	. .	. . .	. . .	. . .	May 23	. . .	May 14	May 27	May 29	May 29	May 14
Chimney Swift	Apr.22	Apr.30	May 11	Apr.29	Apr.13	Apr.30	Apr.14	Apr.13	. . .	Apr.21	Apr.21	Apr.21	Apr.19	Apr.20
Hummingbird	May 7	May 18	May 14	. . .	May 17	. . .	. . .	May 13	. . .	May 17	May 9	May 9	. . .	Apr.13
Kingbird	May 7	May 8	May 16	May 15	May 14	. .	May 4	May 4	. . .	May 3	May 5	May 15	May 6	May 8
Crested Flycatcher	May 3	May 3	May 9	May 3	May 4	May 3	May 4	Apr.27	May 9	May 14	May 4	May 18	May 6	May 4
Phoebe	Mar.31	Apr. 2	Mar.23	Mar.14	Mar. 9	Mar.22	. . .	Mar.23	Apr.19	Mar.28	Mar.23	Mar.22	Mar.25	Mar.23

Name.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Addingham, Pa.	Haverford and Ardmore, Pa.	Merion and Cynwyd, Pa.	West Philadelphia.	Germantown, Phila.	Chestnut Hill, Phila.	Frankford, Phila.	Bulk Arrival, 1919.
Wood Pewee	May 13	May 11	May 9	May 23	May 5	. . .	. . .	May 15	. . .	May 14	May 20	May 15	May 21	May 15
Acadian Flycatcher	. . .	. . .	. . .	. . .	May 13	. . .	. . .	May 3	. . .	May 25	May 25	May 18	May 18	May 13
Least Flycatcher	May 13	. . .	May 11	. . .	May 3	May 3	. . .	May 11	. . .	. . .	. . .	. . .	May 22	May 3
Bobolink	May 9	. . .	May 9	. . .	May 18	. . .	May 11	May 5	. . .	. . .	. . .	May 3	. . .	May 9
Cowbird	. . .	. . .	. . .	Mar. 4	Mar. 25	Apr. 3	. . .	Apr. 8	. . .	Apr. 18	May 3	. . .	Feb. 28	Mar. 26
Red-winged Blackbird	Feb. 28	Jan. 26	Mar. 2	. . .	Mar. 1	Mar. 7	. . .	Mar. 2	Apr. 15	Mar. 12	Apr. 12	. . .	Mar. 4	May 2
Meadowlark	Res.	Res.	Res.	Res.	Res.	Feb. 12	. . .	Res.	Res.	Mar. 8	Mar. 16	Mar. 2	Mar. 1	Mar. 2
Orchard Oriole	May 7	May 4	May 14	. . .	May 18	May 4	. . .	May 4	. . .	May 16	. . .	. . .	May 4	May 4
Baltimore Oriole	May 2	May 11	May 16	Apr. 28	Apr. 30	May 6	May 5	May 2	Apr. 30	May 17	May 8	May 4	May 4	May 4
Rusty Blackbird	Apr. 22	Jan. 26	Mar. 2	. . .	Apr. 18	. . .	. . .	Mar. 23	. . .	Mar. 31	. . .	. . .	Mar. 17	Mar. 23
Purple Grackle	Feb. 12	Feb. 22	Mar. 2	Feb. 28	Feb. 26	Feb. 26	. . .	Feb. 2	Feb. 22	Feb. 28	Feb. 27	Feb. 22	Feb. 22	Feb. 22
Vesper Sparrow	Mar. 26	Mar. 26	Apr. 13	Mar. 19	May 14	. . .	. . .	Mar. 1	Apr. 8	Mar. 31	Apr. 20	. . .	Mar. 8	Mar. 26
Savannah Sparrow	. . .	Mar. 23	May 9	. . .	. . .	. . .	. . .	Apr. 8	. . .	Apr. 9	. . .	. . .	Mar. 29	Mar. 29
Grasshopper Sparrow	May 3	. . .	May 9	. . .	May 4	. . .	. . .	Apr. 18	. . .	Apr. 19	May 27	. . .	May 2	May 2
Chipping Sparrow	Mar. 25	Apr. 6	May 9	Apr. 1	Apr. 6	Apr. 8	. . .	Mar. 23	Apr. 8	Mar. 27	Apr. 6	Apr. 4	Apr. 7	Apr. 6
Field Sparrow	Mar. 8	Res.	Feb. 8	Mar. 30	Mar. 21	Mar. 20	. . .	Feb. 15	Apr. 8	Mar. 8	Apr. 6	Mar. 23	Mar. 21	Mar. 23
Swamp Sparrow	May 6	Feb. 2	Jan. 14	. . .	May 8	. . .	. . .	Mar. 29	Apr. 29	Apr. 7	Apr. 16	. . .	Apr. 14	Apr. 15
Fox Sparrow	Mar. 26	Mar. 2	Mar. 2	. . .	Mar. 1	Mar. 15	. . .	Mar. 1	Mar. 2	Feb. 26	Mar. 4	Mar. 13	Mar. 4	Mar. 2
Chewink	Apr. 21	Apr. 12	Jan. 14	Apr. 14	Apr. 20	Apr. 13	Apr. 14	Apr. 6	Apr. 29	Apr. 7	Mar. 16	Mar. 16	Apr. 18	Apr. 13
Rose-breasted Grosbeak	May 5	May 11	May 9	. . .	May 8	May 8	. . .	May 5	May 9	. . .	May 8	May 3	May 6	May 8
Indigobird	Apr. 30	May 11	May 14	May 27	May 3	May 4	May 10	May 4	May 8	May 9	May 11	May 7	May 11	May 9
Scarlet Tanager	May 5	May 7	May 9	May 3	May 4	May 6	May 3	May 4	May 10	May 12	May 5	May 4	May 4	May 4
Purple Martin	Apr. 1	. . .	May 1	May 10	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	Apr. 21	. . .

Name.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Addingham, Pa.	Haverford and Ardmore, Pa.	Merion and Cynwyd, Pa.	West Philadelphia.	Germantown, Phila.	Chestnut Hill, Phila.	Frankford, Phila.	Bulk Arrival, 1919.
Cliff Swallow	. . .	. . .	. . .	. . .	. . .	. . .	. . .	Apr. 18	May 9	Apr. 18	. . .	. . .	. . .	. . .
Barn Swallow	Apr. 14	Apr. 15	Apr. 13	Apr. 21	Apr. 18	. . .	Apr. 20	Apr. 14	Apr. 29	Apr. 17	Apr. 13	Apr. 20	Apr. 12	Apr. 17
Tree Swallow	Apr. 13	Apr. 30	. . .	. . .	. . .	. . .	. . .	Apr. 18	Apr. 19	Apr. 30	May 8	Apr. 18	Apr. 26	Apr. 19
Bank Swallow	May 11	Apr. 30	May 16	Apr. 21	. . .	. . .	Apr. 13	. . .	. . .	May 7	Apr. 19	. . .	Apr. 24	Apr. 30
Rough-winged Swallow	May 6	Apr. 19	May 14	. . .	May 18	. . .	. . .	Apr. 20	. . .	May 3	. . .	. . .	Apr. 19	Apr. 20
Cedarbird	Apr. 21	May 18	May 17	Apr. 11	May 6	Mar. 9	. . .	Feb. 12	. . .	Apr. 19	. . .	. . .	Mar. 13	Apr. 12
Red-eyed Vireo	May 4	May 7	May 1	May 3	May 8	May 3	May 5	May 3	May 8	May 14	May 5	May 5	May 6	May 5
Warbling Vireo	May 2	. . .	. . .	. . .	May 15	May 6	. . .	May 3	. . .	May 15	May 13	. . .	May 19	May 6
Yellow-throated Vireo	May 5	May 11	May 14	May 3	May 4	May 7	. .	May 14	. . .	May 16	. . .	May 11	May 28	May 7
Solitary Vireo	Apr. 22	May 11	May 11	. . .	May 3	. . .	. . .	May 3	. . .	May 14	. . .	. .	. . .	May 3
White-eyed Vireo	Apr. 30	May 3	May 14	. . .	May 4	May 5	. . .	May 11	May 10	May 12	. . .	May 31	May 4	May 5
Black and White Warbler	Apr. 27	Apr. 28	May 1	May 4	Apr. 21	May 6	. . .	Apr. 26	Apr. 25	Apr. 21	Apr. 26	Apr. 27	May 3	Apr. 27
Worm-eating Warbler	. . .	. . .	. . .	. . .	May 4	. . .	. . .	May 25	. . .	May 17	May 9	. . .	May 18	May 9
Blue-winged Warbler	May 8	. . .	May 17	. . .	May 4	. . .	May 4	May 4	. . .	May 30	May 5	May 4	May 6	May 5
Parula Warbler	May 3	May 4	May 9	. . .	Apr. 28	May 16	. . .	May 11	May 10	May 12	May 8	May 15	May 3	May 4
Yellow Warbler	Apr. 27	May 3	May 1	. . .	May 3	May 2	. . .	May 4	Apr. 30	May 3	May 11	May 4	May 3	May 3
Black-throated Blue Warbler	May 5	May 9	May 14	May 25	May 7	May 15	. . .	May 3	May 10	May 9	May 8	May 4	May 3	May 8
Myrtle Warbler	Apr. 15	Apr. 19	Jan. 14	. . .	Apr. 13	Apr. 17	Apr. 19	Apr. 13	Feb. 22	Apr. 19	Apr. 22	. . .	Apr. 18	Apr. 17
Magnolia Warbler	May 8	May 15	May 14	. . .	May 8	May 12	. . .	May 5	. . .	May 16	May 10	May 15	May 3	May 10
Chestnut-sided Warbler	May 8	May 11	May 17	. . .	May 6	May 8	. . .	May 6	. . .	May 12	May 6	May 7	May 11	May 8
Black-poll Warbler	May 5	May 7	May 11	. . .	May 5	May 8	May 17	May 11	May 5	May 16	May 8	May 28	May 11	May 6
Blackburnian Warbler	May 8	May 10	May 17	. . .	May 12	May 9	. . .	May 6	. . .	May 10	May 6	May 11	May 18	May 10
Black-throated Green Warbler	May 2	May 8	. . .	May 7	May 3	May 3	. . .	Apr. 28	May 10	May 3	May 8	May 4	May 11	May 3

Name.	Moorestown, N. J.	Camden, N. J.	Audubon, N. J.	Media, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Addingham, Pa.	Haverford and Ardmore, Pa.	Merion and Cynwyd, Pa.	W. Philadelphia.	Germantown, Phila.	Chestnut Hill, Phila.	Frankford, Phila.	Bulk Arrival, 1919.
Pine Warbler	Apr. 6	Apr. 12	. . .	. . .	Apr. 18	. . .	. . .	. . .	. . .	May 3	. . .	. . .	. . .	. . .
Yellow Palm Warbler	Apr. 12	Apr. 6	Apr. 27	Apr. 4	Apr. 13	Apr. 16	Apr. 13	Apr. 6	Apr. 19	Apr. 18	Apr. 26	Apr. 27	Apr. 19	Apr. 13
Prairie Warbler	May 11	May 4	May 16	. . .	May 4	. . .	. . .	. . .	. . .	May 14	May 20	. . .	. . .	May 11
Ovenbird	May 3	May 7	May 9	May 3	Apr. 30	Apr. 27	May 4	May 2	May 10	May 2	May 4	Apr. 27	May 4	May 3
Water Thrush	May 12	May 11	May 9	. . .	May 7	. . .	May 6	May 3	. . .	May 12	May 10	Apr. 20	May 16	May 7
Kentucky Warbler	. . .	May 11	. . .	. . .	May 4	May 2	May 5	May 4	. . .	May 12	May 8	May 5	May 11	May 5
Maryland Yellow-throat	Apr. 23	May 4	Apr. 27	May 7	May 3	May 2	May 8	May 2	May 10	May 2	May 5	May 9	May 4	May 3
Chat	May 6	May 7	May 11	May 12	May 4	. . .	May 15	May 4	. . .	May 12	May 5	May 15	May 6	May 7
Canada Warbler	May 6	May 18	May 14	. . .	May 14	May 19	. . .	May 12	. . .	May 15	May 18	May 11	May 11	May 13
Redstart	May 6	May 3	May 11	May 20	May 8	May 8	May 17	May 3	May 10	May 12	May 5	May 7	May 4	May 6
Catbird	Apr. 22	May 3	May 1	May 1	May 3	May 3	May 3	May 3	May 10	May 3	May 4	May 4	May 4	May 3
Brown Thrasher	Apr. 21	Apr. 20	May 1	Apr. 15	Apr. 18	Apr. 29	Apr. 21	Apr. 6	Apr. 29	Apr. 28	May 5	Apr. 20	Apr. 18	Apr. 20
House Wren	Apr. 22	Apr. 27	May 9	Apr. 25	Apr. 18	Apr. 17	Apr. 30	Apr. 17	Apr. 18	Apr. 21	Apr. 29	Apr. 28	May 3	Apr. 21
Long-bill'd Marsh Wren	. . .	May 17	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	May 12	. . .
Ruby-crowned Kinglet	Apr. 16	Apr. 13	Apr. 13	. . .	Apr. 10	Apr. 8	Apr. 12	Apr. 6	Apr. 19	Apr. 14	Apr. 14	Apr. 21	Apr. 17	Apr. 13
Wood Thrush	May 3	May 4	May 1	Mar. 3	May 2	Apr. 26	May 3	May 2	Apr. 27	May 2	May 4	May 4	May 3	May 3
Wilson's Thrush	May 6	May 8	May 14	. . .	May 3	May 13	. . .	May 3	. . .	May 2	May 9	May 11	May 3	May 8
Gray-cheeked Thrush	. . .	May 19	May 17	. . .	. . .	. . .	. . .	May 15	. . .	May 15	. . .	. . .	. . .	. . .
Olive-backed Thrush	May 8	May 8	May 9	. . .	May 8	May 8	. .	May 8	. . .	May 14	May 18	Jun. 1	May 14	May 8
Hermit Thrush	Apr. 12	Apr. 17	Apr. 27	Mar. 25	Mar. 23	Mar. 31	Apr. 14	Apr. 8	Apr. 8	Apr. 14	Apr. 14	Apr. 7	Apr. 8	Apr. 8
Robin	Jan. 25	Jan. 19	Feb. 9	Feb. 28	Feb. 2	Feb. 28	Jan. 20	Feb. 27	Res.	Mar. 3	Feb. 23	Mar. 1	Feb. 28	Feb. 27
Bluebird	Res.	Feb. 26	Mar. 2	Feb. 28	Feb. 17	Feb. 15	. . .	Mar. 1	Feb. 22	Mar. 8	Mar. 21	Mar. 2	Mar. 1	Feb. 28

Names.	Cape May, N. J. E. 13; S. 72.	Atlantic City, N. J. E. 42; S. 42.	Vineland, N. J. E. 7; S. 32.	Downstown, N. J. E. 11; S. 28.	Mt. Holly, N. J. E. 19; N. 3.	Concordville, Pa. W. 20; S. 5.	West Chester, Pa. W. 24; N. 0.	Westtown, Pa. W. 21; S. 2.	Beverly, N. J. E. 13; N. 8.	Bordentown, N. J. E. 25; N. 13.	Allentown, N. J. E. 31; N. 16.	Oaks, Pa. W. 17; N. 12.	Hatboro, Pa. E. 3; N. 19.	George School, Pa. E. 11; N. 18.	Buckingham, Pa. E. 4; N. 26.	Doylestown, Pa. E. 1; N. 26.	Collegeville, Pa. W. 16; N. 18.	Altoona, Pa. W. 176; N. 38.	Lopez, Pa. W. 60; N. 103.
Flicker	Res.	Apr. 22	Res.	Mar. 24	Mar. 5	Mar. 17	Mar. 3	Apr. 5	Mar. 13	Feb. 28	Apr. 4	Mar. 29	Mar. 20	Mar. 13	Mar. 2	Res.	Mar. 30	Apr. 5	Apr. 7
Whip-poor-will	.....	.....	Apr. 15	Apr. 12	May 8	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 14	.....	May 15	May 3	May 4
Nighthawk	.....	.....	.....	.....	.....	.....	May 18	.....	.....	.....	.....	May 2	.....	May 27	.....	Jun. 1	May 11	May 28	May 19
Chimney Swift	Apr. 27	.....	Apr. 22	May 4	Apr. 12	Apr 22	Apr. 10	Apr. 26	Apr. 13	Apr. 19	Apr. 25	Apr. 23	.....	Apr. 16	Apr. 16	Apr. 17	May 2	Apr. 27	May 4
Hummingbird	May 18	May 13	May 17	.....	May 18	May 14	May 10	.....	May 18	May 10	May 12	.....	.....	May 27	May 7	May 23	.....	.....	May 17
Kingbird	Apr. 27	May 8	May 1	Apr. 28	May 3	Mar. 4	May 11	May 6	May 18	Apr. 2	May 3	May 11	.....	May 4	May 4	May 18	May 4	May 18	May 4
Crested Flycatcher	May 4	.....	May 9	May 5	May 3	May 4	May 5	May 4	.....	.....	.....	May 6	.....	May 3	May 10	May 4	May 4	May 18	.....
Phoebe	.....	.....	Apr. 22	.....	Mar. 26	Mar. 20	Apr. 20	.....	Mar. 23	.....	Mar. 26	Apr. 24	Mar. 25	Mar. 19	Mar. 15	Mar. 30	Mar. 30	Mar. 29	Apr. 6
Bobolink	.....	.....	May 5	.....	.....	May 15	May 13	.....	.....	.....	.....	.....	May 5	May 4	May 6	May 11	May 11	May 18	.....
Cowbird	Res.	.....	.....	.....	.....	Mar. 17	Mar. 20	Mar 2	Apr. 6	Feb. 20	Apr. 7	Apr. 13	Mar. 2	Mar. 19	.....	Apr. 13	.....	May 29	.....
Red-winged Blackbird	Res.	Apr. 16	Mar. 8	Mar. 21	Mar. 2	Feb. 25	Feb. 23	Mar. 1	Mar. 2	Feb. 22	Feb. 26	Mar. 25	Mar. 13	Mar. 8	Mar. 3	Mar. 4	Mar. 23	Mar. 22	Mar. 5
Baltimore Oriole	.....	May 8	May 4	May 12	Mar. 4	May 2	May 5	May 4	May 4	May 2	May 3	May 6	May 8	May 7	May 2	May 4	May 5	May 18	May 5
Purple Grackle	.....	.....	.....	.....	Mar. 1	Feb. 16	Feb. 24	Feb. 2	Mar. 2	.....	.....	Feb. 27	Feb. 26	Feb. 28	Feb. 27	Feb. 23	Mar. 1	Mar. 22	.....
Chipping Sparrow	Mar. 23	.....	Mar. 12	Mar. 31	Apr. 6	Apr. 8	Apr. 4	Apr. 1	Mar. 30	Apr. 12	Apr. 7	Apr. 15	Mar. 25	Apr. 13	Apr. 8	Apr. 8	Apr. 12	Apr. 13	Apr. 23
Chewink	.....	Apr. 22	May 4	May 4	Apr. 13	Apr. 19	Apr. 18	Apr. 2	Apr. 13	Apr. 28	.....	Apr. 30	. .....	Apr. 27	May 13	Apr. 13	Apr. 15	Apr. 20	Apr. 28
Indigobird	May 11	May 8	May 9	.....	May 11	May 4	May 13	May 1	May 18	May 8	May 15	May 5	.....	May 17	May 17	May 4	May 12	May 18	May 16
Scarlet Tanager	.....	May 8	May 12	May 11	May 4	May 9	May 6	.....	May 11	May 2	May 2	May 7	.....	May 10	May 12	May 11	May 11	May 15	May 5
Purple Martin	Apr. 6	. .....	Apr. 7	Apr. 5	Apr. 7	.....	Apr. 4	.....	Apr. 13	Apr. 11	May 15	May 17	.....	.....	May 15	Apr. 7	Mar. 29	.....	.....
Barn Swallow	Apr. 23	Apr. 18	May 9	Apr. 25	Apr. 19	Apr 26	Apr. 10	May .	Apr. 27	Apr. 20	May 5	Apr. 21	.....	Apr. 20	Apr. 18	Apr. 17	Apr. 21	Apr. 9	Apr. 20
Red-eyed Vireo	.....	.....	May 8	.....	May 4	May 4	.....	May 7	May 4	May 1	May 12	May 5	May 15	May 6	May 16	May 18	May 11	May 4	May 13
Black-and-white Warbler	.....	Apr. 16	May 30	May 11	Apr. 22	May 3	Apr. 23	.....	Apr. 27	Apr. 28	May 15	Apr. 24	.....	May 17	May 1	May 2	May 5	Apr. 20	May 2
Chestnut-sided Warbler	.....	.....	May 12	.....	May 6	.....	May 8	.....	May 11	.....	.....	May 7	.....	.....	May 11	.....	May 11	May 4	May 4
Ovenbird	Apr. 23	May 8	May 8	Apr. 30	May 2	May 2	May 7	Apr. 20	May 4	May 2	.....	May 5	.....	May 1	May 4	May 4	May 11	May 3	May 4
Maryland Yellowthroat	Apr. 23	May 3	May 4	May 4	Apr. 30	May 2	Apr. 28	May 4	Apr. 27	May 6	.....	May 5	.....	May 4	May 13	May 4	May 17	May 4	May 4
Chat	.....	May 15	May 30	May 25	May 18	Apr. 29	May 13	May 18	May 11	.....	.....	May 11	.....	May 4	May 27	.....	.....	May 25	.....
Catbird	May 4	May 3	Apr. 17	May 5	May 2	May 3	May 2	Apr. 27	May 4	May 2	May 7	May 3	May 10	May 4	May 5	May 4	May 4	May 15	May 16
Brown Thrasher	Apr. 23	Apr. 30	Apr. 15	Apr. 28	Apr. 13	Apr. 23	Apr. 21	Apr. 21	Apr. 27	Apr. 15	May 14	May 2	.....	May 3	Apr. 27	Apr. 20	May 11	Apr. 20	May 3
House Wren	Apr. 23	May 5	Apr. 14	May 5	Apr. 27	Apr. 21	Apr. 18	Apr. 28	Apr. 23	May 2	Apr. 27	Apr. 24	.....	May 11	May 11	May 4	Apr. 24	Apr. 27	May 3
Wood Thrush	May 4	May 8	May 15	May 4	May 2	May 4	Apr. 27	May 4	May 3	May 2	Apr. 27	May 7	May 6	May 6	May 16	May 4	May 12	May 3	Apr. 23
Hermit Thrush	.....	Apr. 22	Apr. 9	.....	Apr. 22	Apr. 19	Apr. 3	.....	Mar. 23	.....	.....	Feb. 16	.....	.....	Mar. 13	Apr. 13	Apr. 14	Apr. 22	Apr. 12
Robin	Res.	Jan. 24	Jan. 19	Jan. 18	Feb. 9	Jan. 15	Jan. 4	Mar. 2	Feb. 12	Res.	Feb. 10	Feb. 26	Feb. 20	Res.	Mar. 1	Feb. 6	Mar. 2	Feb. 12	Mar. 4
Bluebird	Res.	Apr. 15	Res.	Feb. 28	Mar. 1	Feb. 24	Mar. 8	Apr. 4	Feb. 7	Res.	Feb. 2	Mar. 4	Feb. 20	Mar. 2	Feb. 19	Mar. 2	Mar. 2	Mar. 2	Feb. 28

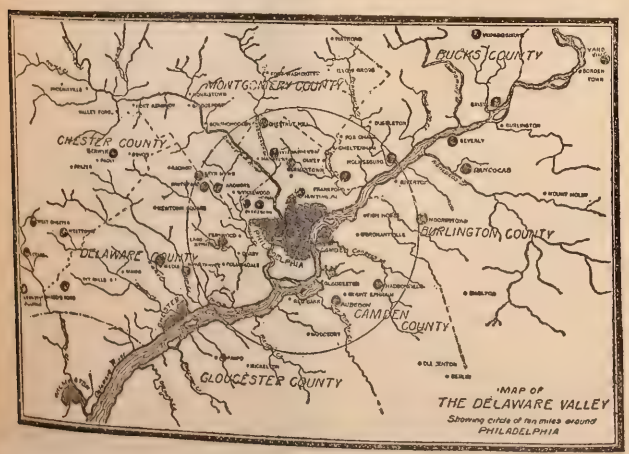


TABLE II.

SPRING MIGRATION, 1919.

EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES AT NINETEEN STATIONS OUTSIDE THE PHILADELPHIA CIRCLE.

List of Other Species Reported by Observers during 1919, and Additional Notes on Species Contained in the Schedule. Autumnal Dates Refer to Autumn of 1918 Unless Otherwise Stated.

Holboel's Grebe, *Colymbus holboelli.* Fish House, N. J., May 13–15 (Potter).

Horned Grebe, *Colymbus auritus.* Fish House, N. J., May 15 (Miller); Chambersburg, May 3 (Mahy); Newton Hamilton, April 27 (McGraw).

Pied-billed Grebe, *Podilymbus podiceps.* Beverly, N. J., April 20–May 4 (Baird); Fish House, N. J., April 20 (Potter); Media, April 15 (Moore); Oaks, September 23 (Roland); Altoona, May 25 (McGraw).

Loon, *Gavia immer.* Atlantic City, N. J., May 3 (Cromie); Fish House, N. J., April 16 (Potter); Media, six flying over April 30 (Moore); Williamsport (above), June 5 one (Carter).

Herring Gull, *Larus argentatus.* Fish House, N. J., June 8 (Potter); Beverly, N. J., April 20 (Baird); Mt. Holly, N. J., April 3 (Pumyea); Gwynedd Valley, April 5 (Miller); Oaks, March 27 (Roland); Cobb's Creek, April 17; West Chester, May 8 (Ehinger); Frankford, April 20 (Miller).

Ring-billed Gull, *Larus delawarensis.* Cape May, N. J., September 1 (Baird),

Black-headed Gull, *Larus atricilla.* Cape May, N. J., April 6 (Hand); Atlantic City, N. J., April 16 (Cromie); Stone Harbor, N. J., May 18, nest and eggs (Carter).

Bonaparte's Gull, *Larus philadelphia.* Fish House, N. J., April 19 (Potter); Wilmington, Del., April 17, ten (Mahy).

Common Tern, *Sterna hirundo.* Atlantic City, N. J., May 15 (Cromie); Cape May, N. J., August 13 (Baird); Oaks, September 6 (Roland).

Black Tern, *Hydrochelidon n. surinamensis.* Camden, N. J., flock of four, May 10–11 (Potter); Cape May, N. J., August 17 (Baird) and September 6 (Street).

Black Skimmer, *Rynchops nigra.* Cape May, N. J., August 17 (Street).

Double-crested Cormorant, *Phalacrocorax a. auritus.* Cape

May, N. J., April 13 (Hand); Barnegat Bay, N. J., May 24 (Woolman).

Merganser, *Mergus americanus.* Cape May, N. J., April 13 (Hand); Beverly, N. J., January 22–March 2 (Baird); Fairmount Park, March 30 (Hagar); Oaks, winter resident on the Schuylkill (Roland).

Red-breasted Merganser, *Mergus serrator.* Fish House, N. J., April 6 (Potter).

Mallard, *Anas platyrhynchos.* New Lisbon, N. J., April 21 (Scoville).

Black Duck, *Anas rubripes tristis.* Cape May, N. J., July 6 (Baird); Fish House, N. J., April 18 (Potter); Richmond, July 1 eight (Miller); Oaks, all winter (Roland).

Pintail, *Dafila acuta.* New Lisbon, N. J., March 29 (Spencer) and April 31 (Scoville).

Ring Neck, *Marila collaris.* Delaware River below Phila., December 8 (Huber).

Lesser Scaup, *Marila affinis.* Oaks, May 30 (Roland).

Golden-eyes, *Clangula c. americana.* Oaks, January 28 (Roland).

Wood Duck, *Aix sponsa.* Cape May, N. J., June 22 (Baird); Mt. Holly, N. J., March 21 and April 11 (Pumyea); Oaks, May 5 and 7, three (Roland).

Canada Goose, *Branta canadensis.* Vineland, N. J., flocks of 100, April 9 (Prince); Riverton, N. J., April 16 (G. S. Morris).

Whistling Swan, *Olor columbianus.* Mt. Holly, N. J., January 24, one came down unable to fly (Pumyea).

Bittern, *Botaurus lentiginosus.* Cape May, N. J., September 12 (Baird); Andover, N. J., May 31 (Carter); Mt. Holly, N. J., May 28 (Pumyea); Chambersburg, May 3 (Mahy); Haverford, May 3 (Scoville); Swarthmore, May 4 (Harrower).

Least Bittern, *Ixobrychus exilis.* Camden, N. J., nest finished May 11, young hatched June 1, climbed out on the branches June 8 and had left by June 14 (Potter).

Great Blue Heron. *Ardea h. herodias.* Oaks, January 1, 1919 (Roland); Doylestown, April 17 (MacReynolds); Mt. Airy, April 4 (Hagar).

Egret, *Herodias egretta.* Beverly, N. J., July 29, 1919 (Street).

Little Blue Heron, *Florida caerulea.* Cape May, N. J., August 17 (Street).

Night Heron, *Nycticorax n. naevius.* Moorestown, N. J., December 25, 1918 (Linton and Mickle).

Clapper Rail, *Rallus crepitans.* Cape May, N. J., nest and eggs May 18 (Hand).

Virginia Rail, Cape May, N. J., June 29, young just hatched (Potter).

Little Black Rail, *Creciscus jamaicensis.* Island Beach, N. J., July 4, nest and eggs (Stuart).

King Rail, *Rallus elegans.* Camden, N. J., May 11, two (Potter); Pensauken, N. J., May 15 (Miller).

Sora, *Porzana carolina.* Camden, N. J., May 11, two (Potter); Bridesburg, May 16 (Miller).

Red Phalarope, *Phalaropus fulicarius.* George School, December 15, 1918 (Cocks); Lenape, Chester Co., Pa., December, about the 15th (Ehinger), both specimens in the Academy of Natural Sciences Collection.

Woodcock, *Philohela minor.* Cape May, N. J., large flight November 21–23 (Hand); nest and eggs, March 23 (Hand); Mt. Holly, N. J., March 24 and June 1 (Pumyea); Fish House, N. J., April 19 (Potter); Altoona, March 22 and April 5 (flight song), (McGraw); Doylestown, March 6–30 (MacReynolds); Media, April 18, two adults and two young (Moore); Torresdale, April 1 and June 15 (Miller); Frankford, June 13 (Miller); Lima, March 7 (McDaniel); Westmont, May 26 (Potter).

Wilson's Snipe, *Gallinago delicata.* Cape May, N. J., January 12, three, and March 30 (Hand); Camden, N. J., April 6 (Potter); Richmond, March 18–May 12 (Miller); Altoona, March 23 (McGraw); Shirleysburg, April 21 (McGraw); Chambersburg, May 3 (Mahy).

Knot, *Tringa canutus.* Two-mile Beach, N. J., August 30 and September 6 (Street).

Pectoral Sandpiper, *Pisobia maculata.* Doylestown, March 27 (MacReynolds).

Least Sandpiper, *Pisobia minutilla.* Cape May, N. J., August

9 (Baird); Atlantic City, N. J., May 3 (Cromie); Camden, N. J., May 10–21, five to fifty (Potter); Oaks, May 26 (Roland).

White-rumped Sandpiper, *Pisobia fuscicollis.* Camden, N. J., May 21 (2) and 24 (1) (Potter).

Red-backed Sandpiper, *Pelidna alpina sakhalina.* Camden, N. J., May 11 (1) (Roland and Potter).

Semipalmated Sandpiper, *Ereunetes pusillus.* Cape May, N. J., August 2 (Baird); Camden, N. J., May 16–31 (Potter).

Sanderling, *Calidris leucophaea.* Cape May, N. J., July 23 (Baird).

Greater Yellowlegs, *Totanus melanoleucus.* Cape May, N. J., April 20 (Hand); Atlantic City, N. J., May 3 (Cromie); Cape Pt., N. J., June 8, one (Miller); Gloucester, N. J., May 4 and 13 (Miller); Camden, N. J., April 28–June 1, one to twenty (Potter); Oaks, September 11, 1918 (Roland).

Lesser Yellowlegs, *Totanus flavipes.* Camden, N. J., May 11–18, 2 to 10 (Potter).

Willet, *Catoptrophorus semipalmatus.* Barnegat Bay, N. J., May 24 (Woolman); Cape May, N. J., August 17, 23 and Sept. 6 (Street).

Upland Plover, *Bartramia longicauda.* Mount Holly, N. J., May 4 (Pumyea); Oaks, May 30 and June 27 (Roland); Doylestown, Aprll 20 (MacReynolds); Gwynedd Valley, April 12 (Miller); Bound Brook, June 17 (Carter); Altoona, May 18 (McGraw).

Black-bellied Plover, *Squatarola squatarola.* Cape May, N. J., August 31 and Sept. 6 (Street); May 11 (Hand).

Killdeer, *Oxyechus vociferus.* Buckshutem, N. J., nest and 3 eggs, May 1 (Prince); Bridgeton, N. J., November 15, 1919, fifty (Roberts); Camden, N. J., nest and 5 eggs April 20 (Potter); Richmond, January 11 (Miller).

Semipalmated Plover, *Aegialitis semipalmata.* Stone Harbor, N. J., May 30 (Miller); Cape May, N. J., August 2 (Baird); Atlantic City, N. J., May 29 (Cromie); Camden, N. J., May 16–25, 2 to 10 (Potter).

Piping Plover, *Aegialitis meloda.* Cape May, N. J., August 5 (Baird) and August 23 (Street).

Turnstone, *Arenaria interpres morinella.* Cape May, N. J.,

May 11 (Hand); Two-mile Beach, N. J., August 30 and September 6 (Street); Camden, N. J., May 21, one (Potter).

Ruffed Grouse, *Bonasa umbellus umbellus.* Altoona, more plentiful than for several years, nest and 6 eggs April 22, and female with ten young June 22 (McGraw).

Hungarian Partridge, *Perdix perdix perdix.* Maple Shade, N. J., April 21, a pair (Miller).

European Pheasant, *Phasianus colchicus.* Gwynedd Valley. November 2 (Miller).

Dove, *Zenaidura macroura carolinensis.* Cape May, N. J., January 12, flock of 90 (Hand), Wyndmoor, April 18, flock of 16 (Miller); West Philadelphia, nest May 2 (Mahy).

Marsh Hawk, *Circus hudsonius.* Newton, N. J., nest with 3 eggs and 2 young, May 30 (Carter); Moorestown, N. J., October 11, 1918 (Evans).

Broad-winged Hawk, *Buteo platypterus.* Doylestown, January 12 to April 18 (MacReynolds); Swarthmore, April 14 (Palmer).

Rough-legged Hawk, *Archibuteo lagopus sancti-johannis.* Richmond, February 25 (Miller).

Duck Hawk, *Falco peregrinus anatum.* Corson's Inlet, N. J., October 16 (Huber); Oaks, November 19 (Roland).

Pigeon Hawk, *Falco columbarius.* Doylestown, October 7 and 12, November 24 and March 3 and 7 (MacReynolds).

Osprey, *Pandion haliaetus carolinensis.* Maurice River, N. J., March 26 (Prince); Moorestown, N. J., September 5, 1918 (Evans); Media, March 30, April 18 (Moore).

Barn Owl, *Aluco pratincola.* Gloucester, N. J., January 5, Fish House, N. J., April 5, and Merchantville, N. J., May 9 (Potter); Gwynedd Valley, May 9 (Miller); Oaks, August 8 to September 15, adult and two young of the year (Roland).

Long-eared Owl, *Asio wilsonianus.* Gloucester, N. J., five wintered (Potter); Haverford, January 26 and October 25 (Scoville); Gwynedd Valley, April 5 (Miller); Paoli, nest in the spring of 1918, two young appeared middle of June (Baily).

Barred Owl, *Strix varia varia.* Swarthmore, November 18 (Mercer).

Saw-whet Owl, *Cryptoglaux acadica acadica.* Camden, N. J., December 8, 1918 (Potter).

Screech Owl, *Otus asio asio.* Vineland, N. J., young flying May 23 (Prince).

Great Horned Owl, *Bubo virginianus virginianus.* Concordville, January 26 (Styer).

Kingfisher, *Ceryle alcyon alcyon.* Holmesburg, January 5 (Miller).

Red-headed Woodpecker, *Melanerpes erythrocephalus.* Mount Holly, N. J., all winter, 1918–19, breeding 1919 (Pumyea); Moorestown, N. J., October 29, 1918 (Evans); West Chester, wintered (Ehinger); Pocono Summit May 25 and Mt. Pocono, May 28 (Carter); Altoona, a pair wintered October 19, 1918, to March 9, 1919 (McGraw).

Sapsucker, *Sphyrapicus varius varius.* Moorestown, N. J., October 4, 1918 (Evans); Chester Heights, February 9 (Hannum).

Flicker, *Colaptes auratus luteus.* Gwynedd Valley, January 11 and 15 (Miller); Frankford, February (Miller).

Chimney Swift, *Chaetura pelagica.* Last seen at Vineland, N. J., October 10 (Prince); Moorestown, N. J., September 19 (Evans).

Hummingbird, *Archilochus colubris.* Last seen at Vineland, N. J., September 25 (Prince).

Whip-poor-will, *Antrostomus vociferus.* Moorestown, N. J., last seen September 21 (Evans); Vineland, N. J., September 15 (Prince).

Alder Flycatcher, *Empidonax trailli alnorum.* Newton, N. J., May 30 (Carter).

Yellow-bellied Flycatcher, *Empidonax flaviventris.* Camden, N. J., May 23, two (Potter); Altoona, May 26 and 28 (McGraw).

Horned Lark, *Otocoris alpestris alpestris.* Moorestown, N. J., October 23, 1918 (Evans); Oaks, November 10, 1918 (Roland); George School, January 19, flock of 20 (Cocks); Altoona, March 19–21 (McGraw).

Fish Crow, *Corvus ossifragus.* Colwyn, Pa., April 2 (Carter).

Raven, *Corvus corax principalis.* Center Co., Pa., March 12, nest and three eggs (Harlow).

Bobolink, *Dolichonyx oryzivorus.* Moorestown, N. J., August

9, 1918 (Evans); Bound Brook, June 17, 2 pair feeding young (Carter).

Evening Grosbeak, *Hesperiphona vespertina vespertina.* New Lisbon, N. J., February 22, flock of 20 females and 7 males (Street and other members D. V. O. C.).

Purple Finch, *Carpodacus purpureus purpureus.* Beverly, N. J., last seen May 4 (Bair); West Chester, April 18 (Ehinger).

Red Crossbill, *Loxia curvirostra minor.* Mt. Holly, N. J., February 9, 1919, and November 11, 1919 (Pumyea).

Goldfinch, *Astragalinus tristis tristis.* Cape May, N. J., thousands in the autumn, November 21–25 (Hand); a flock of 200 at Cape May, February 9 (Baird); very common in the spring migration, West Chester, April 20–26 (DeHaven and Ehinger); Mt. Airy, April 13 (Hagar); Germantown, April 11 (Barker); Haverford, May 13 (Woolman); Allentown, N. J., May 18 (Gordon).

Pine Siskin, *Spinus pinus.* Beverly, N. J., April 6–May 3 (Baird); West Chester, April 25 (Ehinger); Haverford, April 29 (Scoville); Swarthmore, February 25–March 1, April 14–18 and April 23–May 12 (Harrower and Palmer); Gwynedd Valley, October 13, 1918 (Huber).

Snow Bunting, *Plectrophenax nivalis nivalis.* Cape May, N. J., January 19, fifty, and February 16, abundant (Roland); Corson's Inlet, N. J., November 9 (Huber).

Vesper Sparrow, *Pooecetes gramineus gramineus.* Olney, early December, 1919 (G. S. Morris).

Ipswich Sparrow, *Passerculus princeps.* Corson's Inlet, November 9 (Huber).

Henslow's Sparrow, *Passerherbulus henslowi henslowi.* Cape May, N. J., June 8, fledgeling (Miller); Salem, N. J., April 12 (Stuart); Newton, N. J., May 30 (Carter).

White-crowned Sparrow, *Zonotrichia leucophrys leucophrys.* Downstown, N. J., May 12 (Fair); Concordville, May 7–11 (Styer); West Chester, May 8 (Ehinger) and May 13 (Sharples).

White-throated Sparrow, *Zonotrichia albicollis.* Vineland, N. J., September 25–May 2 (Prince); Mt. Holly, N. J., September 29–May 18 (Pumyea); Haverford, October 9–April 13, Mount Airy, October 10–May 18 (Hagar); Moorestown, N. J.,

September 23–May 18 (Mickle); Frankford, September 23–May 20 (Miller); Doylestown, October 4–December 25, January 31, and April 20–May 14 (MacReynolds); Cobb's Creek, September 27–May 24 (Mahy); West Chester, October 25–April 15 (Ehinger). Last seen at Westtown, April 30, Addingham, May 4 (Culver); Swarthmore, May 18 (Howard); Altoona, May 4 (McGraw); Beverly, N. J., May 15 (Baird), Atlantic City, N. J., April 22 (Cromie); Tobyhanna, nest and four eggs, May 28 (Carter).

Tree Sparrow, *Spizella monticola monticola.* Cobb's Creek, November 23–February 22 (Mahy); arrived West Chester, October 19 (Ehinger); last seen at Beverly, N. J., April 13 (Baird); Mt. Holly, N. J., April 13 (Pumyea).

Junco, *Junco hyemalis hyemalis.* Moorestown, N. J., September 26 to May 3 (Wiermann and Mickle); Mt. Holly, N. J., October 3–May 3 (Pumyea); Beverly, N. J., September 16–April 27 (Baird); Downstown, N. J., October 13–April 27 (Fair); Cobb's Creek, October 8–May 3 (Mahy); Mt. Airy, October 1–May 10 (Hagar); West Chester, October 21–April 28 (Ehinger); Doylestown, October 7–April 13 (MacReynolds); arrived West Chester, October 9 (DeHaven); Haverford, October 9 (Scoville); Frankford, October 3 (Miller); last seen at Concordville, May 3 (Styer); Addingham, April 30 (Culver); Swarthmore, May 3 (Harrower).

Swamp Sparrow, *Melospiza georgiana.* Island Road, Delaware Co., June 8, nest and 5 eggs (Carter); Newton, N. J., May 30, nest and 4 eggs (Street).

Fox Sparrow, *Passerella iliaca iliaca.* Arrived at Frankford October 16 (Miller); wintered as follows: Haddonfield, N. J., January 11 (Mahy); Bustleton, January 7, four (Miller).

Towhee, *Pipilo erythrophthalmus erythrophthalmus.* Moorestown, N. J., December 25, 1918 (Linton and Mickle).

Cardinal, *Cardinalis cardinalis cardinalis.* Lansdowne, nest begun April 12; 2 eggs April 25; 3 eggs April 26; 2 eggs May 6; 1 young and 1 egg May 11–May 16 (Carter).

Cedar Waxwing, *Bombycilla cedrorum.* Doylestown, June 1, twenty-five.

Golden-winged Warbler, *Vermivora chrysoptera.* Moorestown,

N. J., May 8 and 11 (Linton and Mickle); Camden, N. J., May 11 (Potter); Haverford, May 12 (Scoville); Swarthmore, May 7, 11 and 12 (Palmer and Howard); Altoona, May 15 (McGraw).

Nashville Warbler, *Vermivora ruficapilla.* Moorestown, N. J., May 14 (Linton) and May 11 (Haines); Camden, N. J., May 4 (Potter); Lansdowne, May 9–11, several (Carter); Haverford, May 5 (Scoville), May 14 (Serrill); Swarthmore, May 9–18 (Harrower); W. Philadelphia, May 12–17 (Richardson); Gwynedd Valley, May 18 (Miller); Altoona, May 18 (McGraw); Pocono Lake, nest and one egg May 26, four eggs May 29 (Carter).

Tennessee Warbler, *Vermivora peregrina.* West Philadelphia, May 16 (Mahy); Concordville, May 7–17 (Styer); Lansdowne, May 22 (Carter); Haverford, May 11 (Scoville) and May 13 (Serrill); Swarthmore, May 3 (Palmer) and May 18 (Harrower and Howard); Gwynedd Valley, May 22 (Miller); West Chester, May 11 (Ehinger); Doylestown, May 21 (MacReynolds); Altoona, May 25, common (McGraw); Pocono Lake, May 26 (Carter); Moorestown, N. J., May 18–22 (Wiermann); May 8 (Linton) and May 6 (Evans).

Parula Warbler, *Compsothlypis americana usneae.* Vineland, N. J., last seen October 11 (Prince).

Yellow Warbler, *Dendroica aestiva aestiva.* Chester, feeding young in nest June 20 (Carter).

Cape May Warbler, *Dendroica tigrina.* Moorestown, N. J., May 10–22 (Wiermann); Camden, N. J., May 5 (Potter); Beverly, N. J., May 19 (Baird); Concordville, May 5–16 (Styer); West Chester, May 8 (Ehinger); Swarthmore, May 7 (Palmer) and May 9–22 (Harrower); Haverford, May 10 (Scoville) and May 11 and 24 (Serrill); Collegeville, May 11 (Kline); Doylestown, May 18 (MacReynolds); Altoona, May 18 (McGraw).

Black-throated Blue Warbler, *Dendroica caerulescens.* Last seen at Mt. Airy, June 8 (Hagar); Vineland, N. J., September 25 (Prince).

Bay-breasted Warbler, *Dendroica castanea.* Mt. Holly, N. J., May 18 and 25 (Pumyea); Audubon, N. J., May 17 (Tatum);

Moorestown, N. J., May 18 (Linton and Mickle); Camden, N. J., May 18–29 (Potter); Beverly, N. J., May 19 (Baird); Concordville, May 18 (Styer); West Chester, May 18 (Ehinger); Swarthmore, May 18–27 (Harrower); Haverford, May 15 (Scoville); West Philadelphia, May 12 (Mahy); Doylestown, May 14–25 (MacReynolds); Altoona, May 15–22 (McGraw); Pocono Lake, May 26 (Carter).

Water-Thrush, *Seiurus noveboracensis noveboracensis.* Vineland, N. J., last seen September 24 (Prince); Newton, N. J., May 30 (Carter).

Louisiana Water Thrush, *Seiurus motacilla.* Doylestown, May 22 (MacReynolds); Wissahickon, April 15, singing (Miller).

Kentucky Warbler, *Oporornis formosa.* May 11, first record here (Potter).

Mourning Warbler, *Oporornis philadelphia.* Moorestown, N. J., May 8 (Linton and Mickle).

Hooded Warbler, *Wilsonia citrina.* Cape May, N. J., May 4 (Hand); Swarthmore, May 16 (Harrower); Haverford, May 11 and 14 (Serrill); Altoona, May 4 (McGraw).

Wilson's Warbler, *Wilsonia pusilla pusilla.* Audubon, N. J., May 14 (Tatum); Swarthmore, May 8 (Howard); Haverford, May 17 (Serrill); West Philadelphia, May 24 (Richardson); West Chester, May 18 (Ehinger); Doylestown, May 21 (MacReynolds).

Redstart, *Setophaga ruticilla.* Buckshutem, N. J., May 31–July 4, at the same place in which they bred in a former year (Prince); Moorestown, N. J., August 20, 1918 (Evans).

Titlark, *Anthus rubescens.* George School, April 12 (Cocks); Doylestown, abundant in the spring, March 30, April 8 and 13 (MacReynolds); Gwynedd Valley, April 11 (Miller).

Catbird, *Dumetella carolinensis.* Moorestown, N. J., December 25, 1918 (Linton and Mickle).

Brown Thrasher, *Toxostoma rufum.* Cape May, N. J., January 19 (Roland).

Mockingbird, *Mimus polyglottos polyglottos.* Vineland, N. J., April 27–May 23 (Prince); Cape May, N. J., June 22–July 4 (Baird); Kennett Square, one wintered (Sharples).

Short-billed Marsh Wren, *Cistothorus stellaris.* Newton, N. J., May 30, four nests, 2 eggs, 7 eggs and two empty (Street and Carter).

Long-billed Marsh Wren, *Telmatodytes palustris palustris.* Cape May, N. J., February 16 (Roland).

Winter Wren, *Nannus hiemalis hiemalis.* Vineland, N. J., October 16 (Prince).

Red-breasted Nuthatch, *Sitta canadensis.* Atlantic City, N. J., April 16 (Cromie); Haddonfield, N. J., January 30 (Mahy); Moorestown, N. J., October 4–December 25 and May 8 (Evans); Concordville, May 2 (Styer); West Chester, November 2 (Ehinger); West Philadelphia, September 14 (Mahy); Mt. Airy, May 15 (Hagar); Altoona, May 4 (McGraw).

Black-capped Chickadee, *Parus atricapillus atricapillus* Unusually common, Doylestown, October 12–April 7 (MacReynolds); West Chester, arriving October 24 (DeHaven); Concordville, George School, etc., without dates.

Carolina Chickadee, *Parus carolinensis carolinensis.* Westmont, N. J., nest and eggs May 3 (Potter).

Blue-gray Gnatcatcher, *Polioptila caerulea caerulea.* Atlantic City, N. J., April 15 (Cromie); York, April 8 (Farquahr).

Ruby-crowned Kinglet, *Regulus calendula calendula.* Frankford, arrived September 23 (Miller).

Golden-crowned Kinglet, *Regulus satrapa satrapa.* Moorestown, N. J., October 20–April 16 (Mickle); Frankford, September 30–April 18 (Miller); West Chester, October 16–April 6 (Ehinger).

Brown Creeper, *Certhia familiaris americana.* Moorestown, N. J., October 6–December 25 (Mickle); Doylestown, March 30–April 30 (MacReynolds); Altoona, March 15–April 20 (McGraw); Mt. Airy, April 20 (Hagar).

Veery, *Hylocichla fuscescens fuscescens.* Vineland, N. J., last seen September 25 (Prince); Concordville, May 28 (Styer).

Wood Thrush, *Hylocichla mustelina.* Pocono Lake, all summer, May 26–August 3 (Carter).

Wheat-ear, *Oenanthe oenanthe.* Lansdale, October 7, 1919 (J. R. Gillen, specimen collected and exhibited before the Club).

Abstract of the Proceedings of the Delaware Valley Ornithological Club, 1919

JULIAN K. POTTER

January 2, 1919. At the twenty-ninth annual meeting of the Delaware Valley Ornithological Club, the following officers were elected for the ensuing year:

President—J. Fletcher Street.
Vice-President—George H. Stuart, 3rd.
Treasurer—Samuel C. Palmer.
Secretary—Julian K. Potter.

Thirty-one members and two visitors present. Mr. J. Fletcher Street gave an interesting talk on "Pursuing Birds and Bird Pursuers," being an account of a number of field trips taken to points in Delaware and the mountains of Pennsylvania. Nests of the Bald Eagle, Great Horned Owl and Yellow-bellied Flycatcher were mentioned as among the rarities found. The communication was illustrated by lantern slides.

January 16, 1919. Twenty-nine members and five visitors present. The following committees were appointed: Field Committee, Messrs. Baily, Scoville and Potter; Publication Committee, Messrs. Trotter, Stone and Morris. The meeting was addressed by Mr. George H. Stuart, 3rd, on "The Nesting of the Cape May and Nashville Warblers in New Brunswick," describing the nesting haunts and habits of these birds as well as of the Myrtle Warbler and Olive-sided Flycatcher.

February 6, 1919. Twenty-three members and two visitors present. Mr. W. E. Hannum read a paper entitled "The Sign of the Wren's Nest." The paper included extensive observations about the vicinity of "The Wren's Nest"—the bungalow

of Joel Chandler Harris; and other points in the neighborhood of Atlanta, Ga. Special mention was made of the winter habits of some of our more common summer birds: large numbers of Robins congregated in a definite roost every night, Bluebirds are scattered about the country in small loose flocks, the House Wren returns to primitive habits and is solitary, secretive and shy, while Chipping Sparrows and Field Sparrows associate in flocks until the beginning of the song season.

Mr. DeHaven reported four large flocks of Red-backed Sandpipers and two of Black-bellied Plover at Cape Charles, Va., on January 29.

February 20, 1919. Four visitors and twenty-three members attended. Dr. C. E. Ehinger spoke on the subject "Birds of the Lower Susquehanna Valley," describing the unusual scenery and wealth of bird life found about Peach Bottom, Pa., during the spring migration season. Warblers were especially abundant, from fourteen to twenty-five species having been seen on each trip. Ninety-eight species of birds were noted during a few days' stay in the spring of 1917.

Mr. Louis Agassiz Fuertes was present and gave an interesting account of ancient and modern Falconry and exhibited a number of his superb paintings illustrating the principal Raptores used in Falconry. Mr. Fuertes stated that the modes of attack of the long-winged Falcon and the short-winged Goshawk, both of which were used in the art, were quite different; the Falcon relying on the force of the blow and the Goshawk on the grip of the talons to kill the prey.

March 6, 1919. Thirty-four members and three visitors present. Mr. Samuel Scoville, Jr. was elected to active membership and W. G. McDaniel, C. E. Tobias, Gurden T. Scoville, Prof. D. F. Lockwood to associate membership. The communication, "Bird Biographies," was by Dr. Spencer Trotter. The subject referred to biographies for the proposed club book on the birds of our district. The speaker stated that the biographies had been entirely finished for the groups, from the Thrushes to the Warblers, inclusive, and the accompanying data largely abstracted and compiled. He urged a continued and sustained

interest in the work, as the completion of the book is now in sight.

March 20, 1919. Thirty-eight members and three visitors present. Dr. Witmer Stone read a paper entitled "Searching for Eagles' Nests," giving an interesting biographical sketch of the Bald Eagle and a delightful account of an expedition taken to Delaware in search of Eagles' nests. Two nests were found, one of which contained a set of two eggs. Lantern views of the nests were shown.

April 3, 1919. Twenty-three members and three visitors present. The meeting was addressed by Prof. Herbert H. Beck upon the subject "Bird Notes from Lancaster County." His remarks were full of interest and pertained mostly to the distribution and relative abundance of birds in Lancaster County. Data which covered a number of years' field study showed that the forest-loving birds had disappeared or become rare, while birds of open farm land had for the most part increased. Since the passage of the Migratory Bird Law the Canvas-back Duck, Canada Goose and Whistling Swan had become much more abundant on the Susquehanna flats. Interesting notes regarding the Passenger Pigeon and the colonies of Black-crowned Night Herons were given.

April 17, 1919. Twenty-five members and one visitor present. The topic of the evening, "Scattered Observations," was delivered by Mr. John D. Carter. Accurate and entertaining observations of birds as noted by the speaker at different points during the spring of 1918 were the features of the communication. Five Bald Eagles were seen at Cape Henry, Va. at one time and the Rough-winged Swallow was found nesting in the sand dunes. A June trip to the Poconos yielded the nest and eggs of the Golden-crowned Kinglet, Black-throated Green Warbler and the Blackburnian Warbler, and in addition a nest with young of the Nashville Warbler was found and a Lesser Scaup Duck was noted.

May 1, 1919. Three visitors and nineteen members present. Mr. William L. Baily speaker of the evening being absent on

account of illness, Dr. Witmer Stone gave a short account of a trip to Cape May, N. J., April 20, when an unusual number of Fish Hawks were noted. The effect of the high wind on migrating Barn Swallows was observed, the birds settling on the ground in large numbers very much exhausted and permitting very close approach. A Fish Hawk was seen in a similar exhausted condition. Dr. Stone continued by giving a review of the April number of "The Auk." The articles were commented on by various members.

May 15, 1919. One visitor and sixteen members present. Mr. William L. Baily gave a biographical sketch of his uncle William L. Baily, author of "Our Own Birds." Extracts were read from a number of letters received by Mr. Baily, Sr., from John Gould, dealing especially with his method of producing iridescent effects on his paintings of the Hummingbirds. Four volumes containing paintings of the Hummingbirds were exhibited which demonstrated that William L. Baily, Sr., was an artist of great ability.

October 2, 1019. Twenty-six members present. Dr. Witmer Stone spoke on "The Life and Works of the Late William Brewster," his remarks were of a biographical nature and reviewed Mr. Brewster's ornithological activities and associations. A number of his works were shown and several letters read which had been received from him by Dr. Stone at different times during an acquaintance of thirty years.

October 16, 1919. Five visitors and twenty-four members present. Mr. Samuel Scoville, Jr. read a paper entitled "The Pileated Woodpecker," giving an interesting account of the habits of this shy Woodpecker as observed by him in the wilder parts of northern Pennsylvania as the guest of Mr. R. C. Harlow during the early part of May, 1919. Three occupied nests were found (see *antea*).

November 6, 1919. Twenty-eight members and two visitors present. The following were elected to associate membership: Franklin Cook, Atlantic City, N. J., and Asa P. Way, Lansdowne, Pa.

Mr. J. Fletcher Street addressed the members on "Our Little Beach Island Trip," describing his experiences with the Shore Birds on the New Jersey coast during August and September, 1919, and giving a detailed account of the environment and habits of the Black Rail which was found nesting on Little Beach Island July 4th of this year.

Lantern slides depicting scenery and birds were shown.

November 20, 1919. Twenty-one members and four visitors present. The topic of the evening was "Some Experiences in Bird-calling," by Mr. Philip E. Howard. The speaker illustrated his talk with striking imitations of the call notes of some of our more common birds and described in an interesting manner how various birds had been attracted to the caller by imitating their respective notes.

December 4, 1919. Twenty-two members present. Mr. John D. Carter addressed the members on the subject "Pocono and North Jersey Birds," describing in an interesting manner the nesting habits of the Nashville Warbler in the Poconos and the Short-billed Marsh Wren at Newton, New Jersey. Unoccupied nests of this Wren were found built of green material while those that contained eggs were built of dry grasses. A Marsh Hawk's nest, the Golden-winged Warbler and the Alder Flycatcher were mentioned as other features of the trip to north Jersey.

December 19, 1919. Twenty-six members and two visitors present. Dr. Witmer Stone gave a very interesting communication on "Bird Observations in the Chiricahua Mountains, Arizona." Describing a collecting trip which he had taken from May 19 to August 1, 1919, to the camp of Mr. J. Eugene Law, established in Pinery Canyon, Chiricahua Mountains. Characteristic birds of the desert regions, foothills end higher mountain regions were dwelt upon. Specimens of the birds, mammals, reptiles, insects and plants collected were shown.

Lantern slides showing the difficulties encountered and the natural beauty of the country were an interesting feature of the communication.

Club Notes

SIXTEEN meetings of the Club were held during 1919. The average attendance was twenty-five, while sixty-eight members attended at least one meeting during the year.

* * *

THREE field trips were taken during the year as follows: February 22, 1919, to New Lisbon, N. J. The members were entertained at the cabin of Messrs. Samuel Scoville, Jr. and J. Fletcher Street. The day was overcast and damp, wind blowing from the northeast. Eleven species of birds were noted, including a flock of twenty-seven Evening Grosbeaks, seven of which were males. Eighteen members and two visitors attended.

April 18, 1919, to valley of Ridley Creek from West Chester Pike to Paoli, Pa., and return. Twenty men took part. Cloudy, wind west. Fifty-two species of birds noted. A remarkable number of Hawks (six species) and Sparrows (thirteen species) were listed. A Wilson's Snipe and a Baltimore Oriole were observed.

May 30, 1919, Port Indian to Oaks, Pa. Clear and very warm; 85 to 91 degrees. Ten members and three visitors attended. Fifty-nine species of birds observed, including Lesser Scaup Duck, Upland Plover and Bobolink. Nests of Cooper's Hawk, Grasshopper Sparrow and Blue-winged Warbler were found.

* * *

ON December 11 the Club tendered an informal dinner to Mr. William Lutley Sclater, the famous British ornithologist and editor of "The Ibis," who was visiting the city. Forty-five members attended. President Street presided and Dr. Stone acted as toastmaster. Mr. Sclater spoke of his former visit to Philadelphia with his father, the late Dr. Philip L.

Sclater. Dr. Spencer Trotter spoke of his early association with the Academy of Natural Sciences and the foreign ornithologists that he met there in the late seventies. Dr. Cornelius Weygandt discussed the love of nature, especially birds, as a common heritage of the English-speaking people, and other addresses were made by Dr. Wm. E. Hughes and Samuel N. Rhoads, while William L. Baily exhibited a series of admirable lantern slides of birds.

As it was almost exactly thirty years since the first steps were taken to organize the Delaware Valley Ornithological Club in late December, 1889, it was decided that this event should be considered as the Club's anniversary meeting.

* * *

The field work of the members was spread over a wide area during 1919. Stuart visited Newfoundland in search of the eggs of various boreal species, while Harlow was in New Brunswick on a similar errand. Stone spent the summer in camp in the Chiricahua Mts., southern Arizona, as the guest of J. Eugene Law, while Rehn was catching grasshoppers in the Death Valley, Hughes was cruising through the West Indies and Trotter at his old haunts in Nova Scotia.

Of members far removed Burleigh has been active in the formation of the Northwestern Bird and Mammal Club at Seattle, and Hunt in the recently organized Chicago Ornithological Club, while Coggins has been induced to attend at least one meeting of the Cooper Club at Berkeley, Calif., during the year.

* * *

Increased cost of production and unprecedented conditions in the printing business have delayed the appearance of this issue.

Bibliography 1919

Papers Relating to the Birds of Pennsylvania, New Jersey and Delaware

Abstract of the Proceedings of the Linnaean Society of New York, 1918–1919, No. 31. (Several notes on New Jersey Birds.)

Anon. Birds Seen from an Automobile on the Alleghany Mountains. Oologist, 1919, p. 69.

——— List of Birds Seen near Telford, Bucks Co., Pa., May 19, 1919. Oologist, 1919, p. 190. (Seventy-five species.)

Atkinson, Cedric V. Unspotted Eggs of the Red-shouldered Hawk. Oologist, 1919, p. 82. (At Montclaire, N. J.)

Brown, N. C. Evening Grosbeak again at Lakewood, N. J. The Auk, 1919, p. 573. (Ten on February 20, 1919.)

Burns, F. L. The Ornithology of Chester County, Pennsylvania. Boston, 1919, pp. 1–122.

Christmas Bird Lists by numerous observers. Bird-Lore, 1919, pp. 34–37.

Culver, D. E. Duck Hawks Wintering in the Center of Philadelphia. The Auk, 1919, p. 108.

Dickey, S. S. Unusual Meeting of the Rough-winged Swallow. Oologist, 1919, p. 18. (In drain pipes at Waynesborough, Pa.)

——— A Mountain Home of the Parula Warbler. Oologist, 1919, p. 33. (Stone Valley, Huntington County.)

——— In the Haunts of the Duck Hawk. Oologist, 1919, p. 43. (In central Pennsylvania.)

——— Early Nesting of Some Common Birds. Oologist, 1919, p. 67. (At Waynesburg, Pa.)

Farquhar, Arthur. Late Departure of Bank Swallows. Oologist, 1919, p. 83, also p. 101. (On the Susquehanna River, York Co., Pa. Mention of other Swallows.)

FISHER, G. CLYDE. Egrets (*Herodias egretta*) in Northern New Jersey. The Auk, 1919, p. 101. (Two at Branchville, August 4, 1918.)

FRENCH, JOHN C. The Passenger Pigeon in Pennsylvania. Altoona, Pa., 1919, pp. 1–257.

GRINNELL, GEORGE BIRD. The Ruddy Sheldrake on the Atlantic Coast. The Auk, 1919, p. 561. (Barnegat Bay, 1916.)

MCCONNELL, T. L. and SAVAGE, L. F. Prothonotary Warbler at Erie, Pa. Bird-Lore, 1919, p. 242. (September 6, 1918.)

MILLER, R. F. A Set of Six Phoebe's Eggs. Oologist, 1919, p. 72. (Holmesburg, Phila., April 30, 1901.)

——— Suspended Nidification of the Yellow-billed Cuckoo. Oologist, 1919, p. 82. (Nest built in June, eggs not laid until July.)

——— Pennsylvania and New Jersey Nesting Data for 1918. Oologist, 1919, p. 155. (Ninety-five species, but some nests old or empty.)

MILLER, W. DEW. Four Rare Birds in Sussex Co., N. J. The Auk, 1919, p. 293. (Pileated Woodpecker, October 12, 1918; Golden Eagle, November 27, 1918; Raven, September 21, 1918, and numerous captures of Goshawks—all at Culver's Gap.)

——— Pine Grosbeak (*Pinicola enucleator leucura*) in Northern N. J. The Auk, 1919, p. 423. (A flock at Stag Lake, Sussex Co., February 9, 1919.)

NICHOLS, J. T. Broad-winged Hawk (at Haverford, Pa., in winter), a Correction. Bird-Lore, 1919, p. 105.

OBERHOLSER, H. C. Mimus polyglottos polyglottos in North Central New Jersey. Wilson Bulletin, 1919, p. 25, (Newman Springs, Monmouth Co., November 25, 1889.)

PEARSON, T. GILBERT. A New Jersey Heron Colony. Bird-Lore, 1919, p. 271. (At Mays Landing, June 1, 1919. Mention of occurrence of two Pied-billed Grebes.)

POTTER, J. K. The Season. Bird-Lore, 1919, pp. 51, 113, 184, 249, 309, 365. (Résumé of the condition of bird life about Philadelphia.)

RAYMOND, OLNEY. Red Phalarope in Pennsylvania. Bird-Lore, 1919, p. 239. (December 25, 1918, at George School, Pa.)

SCOVILLE, SAMUEL, JR. The Out-of-Doors Club. Philadelphia. The Sunday-School Times, 1919. (Local Bird Notes).

STONE, WITMER. Occurrence of the Red Phalarope in Pennsylvania. The Auk, 1919, p. 419. (George School, December 15, 1918, and Lenape, Chester Co., about the same date.)

——— Evening Grosbeak in New Jersey. The Auk, 1919, p. 423. (Twenty-seven at New Lisbon, February 22, 1919.

——— Early Occurrence of the Red-breasted Nuthatch in New Jersey. The Auk, 1919, p. 423. (Cape May, July 18, 1918.)

WELSH, F. R. Notes on Grackles and Other Birds (near Philadelphia). Bird-Lore, 1919, p. 107.

WEST CHESTER BIRD CLUB. (A pamphlet on the work of the organization.)

YOUNG, JOHN P. A Tardy Evening Grosbeak. Bird-Lore, 1919, p. 240. (Williamsport, Pa., March 2, 1919.)

OFFICERS AND MEMBERS

OF THE

Delaware Valley Ornithological Club.

1920.

J. FLETCHER STREET, *President.*
GEORGE H. STUART, 3rd, *Vice-President.*
SAMUEL C. PALMER, *Treasurer,* Swarthmore, Pa.
JULIAN K. POTTER, *Secretary,* 6th and Bailey Sts., Camden, N. J.

ACTIVE MEMBERS.

BAILY, WILLIAM L., Ardmore, Pa. ..... Founder
BROWN, STEWARDSON, 20 E. Penn St., Germantown, Phila. *1891
CARTER, JOHN D., Lansdowne, Del. Co., Pa. 1900
DEHAVEN, I. NORRIS, Ardmore, Pa. 1891
EHINGER, C. E., M. D., West Chester, Pa. 1909
EMLEN, ARTHUR C., Awbury, Germantown, Phila. 1897
FOWLER, HENRY W., Langhorne, Pa. 1894
HUGHES, WM. E., M. D., 3954 Chestnut St., Phila 1891
MOORE, ROBERT T., Haddonfield, N. J. 1897
MORRIS, GEO. SPENCER, Olney, Phila., Pa. ..... Founder.
PALMER, S. C., PH. D., Swarthmore College, Swarthmore, Pa. 1899
PENNOCK, CHARLES J., Kennett Square, Pa 1895
POTTER, JULIAN K., Sixth and Bailey Sts., Camden, N. J. 1911
REHN, JAMES A. G., 6033 Catherine St., Phila., Pa. 1899
RHOADS, SAMUEL N., Haddonfield, N. J. ..... Founder.
ROBERTS, WILLIAM E., 207 McKinley Ave., Lansdowne, Pa. 1901
SCOVILLE, SAMUEL, JR., Pennsylvania Bldg., Phila., Pa 1907
SHRYOCK, WILLIAM A., 225 S. Sixth St., Phila., Pa. 1891
STONE, WITMER, SC. D., Academy of Natural Sciences, Phila.... Founder.
STREET, J. FLETCHER, Beverly, N. J. 1903
STUART, GEO. H., 3RD, Girard Trust Company, Phila., Pa. 1910
TROTTER, SPENCER, M. D., Swarthmore College, Del. Co., Pa.... Founder.
WEYGANDT, CORNELIUS, PH. D., Wissahickon Ave. below Frank St., Germantown, Phila. 1891

ASSOCIATE MEMBERS.

ADAMS, ROBERT, JR., Oak Lane P. O., Oak Lane, Phila. 1910
ALLEN, A. REGINALD, JR., 2013 Spruce St., Phila., Pa. 1918
BACON, FRANCIS L., 236 Winona Ave., Germantown, Phila. 1917
BAIRD, DAVID G., Beverly, N. J. 1913
BALL, J. P., M. D., Frankford, Phila., Pa. 1910

* Date indicates year of election to Club.

BARTRAM, EDWIN B., 200 N. 3rd St., Phila., Pa. 1908
BEATTY, GEORGE, JR., Merion, Pa. 1911
BECK, PROF. H. H., Franklin and Marshall College, Lancaster, Pa. ... 1917
BENNERS, GEORGE B., 2418 Spruce St., Phila., Pa. 1913
BORNEMAN, HENRY S., 801 Franklin Bank Bldg., Phila., Pa. 1913
BRADFORD, R. R. PORTER, 146 W. Lehigh Ave., Phila., Pa. 1913
BROWN, GEORGE FARNUM, Girard Trust Company, Phila., Pa. 1916
BURDSALL, RICHARD L., Swarthmore, Pa. 1916
BYROM, LEWIS S., 127 W. Susquehanna Ave., Phila. 1909
COOK, FRANKLIN, Seaside Hotel, Atlantic City, N. J 1919
COOKE, GEORGE J., Ambler, Pa. 1916
COPE, FRANCIS R., JR., E. Washington Lane, Germantown, Phila. .. 1895
CULVER, DELOS E., Addingham, Pa. 1913
ELLIS, J. M. MACKINNON, Swarthmore, Pa. 1917
ERSKINE, RICHARD, Wenonah, N. J. 1916
EVANS, JOSEPH S., Marlton, N. J. 1913
EVANS, WILLIAM B., Moorestown, N. J. 1898
FORSYTH, GEORGE, Route 4, R. F. D., West Chester, Pa. 1891
FOSTER, FRANK B., Haverford, Pa. 1912
FUGUET, STEPHEN, 1027 Spruce St., Phila. 1911
GARDNER, A. C., 1805 Market St., Wilmington, Del 1918
HAGAR, ARTHUR F., 525 Westview Ave., Germantown, Phila. 1906
HAINES, SAMUEL S., M. D., 124 E. Main St., Moorestown, N. J. 1901
HALLETT, GEORGE H., JR., 199 Owens Ave., Lansdowne, Pa. 1911
HANNUM, WILLIAM E , Chester Heights, Pa 1901
HARROWER, DAVID E., Swarthmore, Pa. 1905
HARROWER, HAROLD, Swarthmore, Pa. 1914
HASSOLD, CARL, 107 Gowan Ave., Mt. Airy, Pa. 1917
HILL, THOMAS R., 409 Chestnut St., Phila. 1908
HOTTLE, HOWARD P., 430 W. Bringhurst St., Germantown, Phila., Pa. 1918
HOWARD, PHILIP E., Swarthmore, Pa. 1914
HUBER, WHARTON, Gwynned Valley, Pa. 1916
JUSTICE, WILLIAM W., JR., 7803 St. Martins Lane, Chestnut Hill .. 1893
JACK, CHARLES S., D. D. S., Media, Pa. 1906
KITE, NATHAN, Moylan, Pa. 1898
KUSER, JOHN DRYDEN, Bernardsville, N. J. 1911
LEWIS, SHIPPEN, 1820 Pine St., Phila., Pa. 1912
LINTON, M. ALBERT, 409 Chestnut St., Phila., Pa. 1905
LOCKWOOD, PROF. D. F., Walnut Lane, Haverford, Pa 1919
LODGE, JOSEPH B., 3340 N. 16th St., Phila., Pa. 1900
LONGNECKER, PARKE L., D. D. S., 2015 Chestnut St., Phila., Pa. ... 1910
MCCADDEN, DAVID N., 5039 Osage Ave., Phila., Pa. 1892
MCCALL, WILLIAM W., JR., 4056 Chestnut St., Phila., Pa. 1915
MCDANIEL, W. G., 1325 Erie Ave., Phila., Pa. 1919
MCMURTRIE, RICHARD C., 300 W. Highland Ave., Chestnut Hill 1904
MAHY, G. GORDON, JR., 4809 Warrington Ave., Phila., Pa. 1918
MASON, SAMUEL, JR., 522 Locust Ave., Germantown, Phila., Pa. ... 1913
MERCER, E. LEROY, M. D., Swarthmore, Pa. 1916

MERCUR, JAMES WATTS, JR., Wallingford, Pa. 1914
MEYERS, F. GUY, 1218 Chestnut St., Phila., Pa 1896
MILLER, ISAAC P., 409 Chestnut St., Phila., Pa. 1907
MILLER, RICHARD F., 2073 E. Tioga St., Phila., Pa. 1908
MITCHELL, DR. B. W., 4326 Pine St., Phila., Pa. 1914
NORRIS, EDWARD, St. Martins, Chestnut Hill, Phila. 1914
NORRIS, J. PARKER, JR., 2120 Pine St., Phila., Pa. 1916
PACKER, JESSE E., M. D., Newtown, Pa. 1911
PANGBURN, C. H., 1018 Cherry St., Phila., Pa. 1919
PARKER, HARRY E., Southampton, Pa. 1915
PEPPER, WILLIAM, M. D., 1811 Spruce St., Phila., Pa. 1912
PRIEST, RALPH N., 1627 Sansom St., Phila., Pa 1918
PUMYEA, NELSON D. W., Mt. Holly, N. J. 1916
RIDDLE, ROBERT, 21 W. Rogers Ave., Merchantville, N. J. 1916
RIDDLE, S. EARL, Atlanta, Ga 1910
RHOADS, CHARLES J., Rittenhouse Sq., Phila., Pa. 1914
ROBINSON, ANTHONY W., 409 Chestnut St., Phila., Pa. 1898
ROLAND, CONRAD K., 1208 DeKalb St., Norristown, Pa. 1917
SANGREE, CARL M., Union Theol. Sem., New York, N. Y. 1917
SCHELL, JOHN W., Drexel Building, Phila., Pa. 1917
SCHEUING, WILLIAM B., 317 N. 63rd St., Phila., Pa. 1893
SCOVILLE, GURDON T., 415 Lancaster Ave., Haverford, Pa. 1919
SELLIEZ, EDWARD A., Box 469, Phila., Pa. 1902
SERRILL, WILLIAM J., 1401 Arch St., Phila., Pa. 1891
SHERRERD, DONALD, 9 West Brown St., Princeton, N. J. 1913
SHERRILL, ARTHUR MILES, Delmar-Morris Apts., Gtn., Phila., Pa. .. 1918
SIBLEY, WALTER G., 6626 McCallum St., Germantown, Phila., Pa. .. 1900
SMITH, LOUIS IRVIN, JR., 3908 Chestnut St., Phila., Pa. 1901
SPENCER, THEODORE, JR., Haverford, Pa. 1916
STYER, J. FRANKLIN, Concordville, Pa. 1917
SUDDERS, JOSEPH D., Olney, Pa. 1910
TATNALL, SAMUEL A., 409 Chestnut St., Phila., Pa. 1910
TATUM, JOSEPH W., Audubon, N. J. 1892
TOBIAS, C. E., JR., 5282 Knox St., Germantown, Phila., Pa. 1919
TOMLIN, F. H., D. D. S., Haddonfield, N. J. 1909
TROTTER, WILLIAM H., Chestnut Hill, Phila., Pa. 1899
TUCKER, HENRY, M. D., 1818 Pine St., Phila., Pa. 1906
UNDERDOWN, HENRY T., 409 Chestnut St., Phila., Pa 1918
VOELKER, CHARLES A., Aldan, Delaware Co., Pa. ..... Founder.
VOSBURG, PAUL, Franklin Bank Bldg., Phila., Pa. 1905
WAY, ASA P., Lansdowne, Pa. 1919
WHEELER, PROF. A. L., Bryn Mawr, Pa. 1905
WHITAKER, ALBERT, Cedar Grove, Frankford, Phila., Pa. 1896
WHITAKER, JAMES L., Cedar Grove, Frankford, Phila., Pa. 1904
WILDMAN, EDWARD L., 4331 Osage Avenue, Phila., Pa. 1914
WOOD, GEORGE B., M. D., 129 S. 18th St., Phila., Pa 1917
WOOLMAN, EDWARD, Haverford, Pa. 1915
WOOLMAN, EDWARD W., 44 N. 38th St., Phila., Pa. 1902

HONORARY MEMBER.

ABBOTT, WILLIAM LOUIS, M. D., 400 So. 15th St., Phila., Pa..... 1912

CORRESPONDING MEMBERS.

AUSTIN, J. HAROLD, M. D., New York City..... 1903
BAKER, CHARLES H., Verona, Allegheny Co., Pa. 1900
BAYNARD, O. E., Clearwater, Fla. 1911
BEANS, THOMAS J., Moorestown, N. J. 1895
BEHR, HERMAN, Lansdale, Pa. 1897
BEHR, OTTO, Lopez, Sullivan Co., Pa. 1897
BOWDISH, B. S., Demarest, N. J. 1913
BULLER, W. H., Marietta, Lancaster Co., Pa. 1895
BURLEIGH, THOMAS D., Georgia..... 1917
BUVINGER, CHARLES W., M. D., Newark, N. J..... 1900
COGGINS, HERBERT L., 463 14th St., Oakland, Cal. 1897
COLE, STIRLING W., Cape May Court House, N. J. 1904
DICKEY, SAMUEL S., Waynesburg, Pa. 1917
EASTMAN, MAJOR F. B., U. S. A., Ft. Leavenworth, Kas. 1898
FARR, MARCUS S., Princeton, N. J. 1901
FRY, REV. HENRY J., Mt. Vernon, N. Y. 1915
GITHENS, ALFRED M., New York City, N. Y. 1895
GRAHAM, HARRY L., Redlands, Cal. 1897
GROSH, ALLEN H., Washington, D. C. 1900
HAND, H. WALKER, 1002 Washington St., Cape May, N. J..... 1900
HARLOW, RICHARD C., State College, Pa..... 1904
HUNT, CHRESWELL J., Oak Park, Ill. 1902
JACKSON, THOMAS H., West Chester, Pa. 1895
JACOBS, J. WARREN, Waynesburg, Greene Co., Pa. 1895
KEIM, THOMAS D., Steelton, N. J. 1902
KESTER, RAYMOND, Williamsport, Pa. 1892
LADD, SAMUEL B., Reading, Pa. 1895
LIEBELSPERGER, W. H., Fleetwood, Pa. 1913
LORRILLIERE, PAUL L., Baltimore, Md. 1904
MCREYNOLDS, GEORGE, Doylestown, Pa. 1917
MARX, CAPT. EDW. J. F., Easton, Pa. 1909
MILLER, WALDRON DEW., Plainfield, N. J. 1900
OTTEMILLER, FREE, 30 N. Pine St., York, Pa. 1917
PEARSON, LEONARD S., Baltimore, Md..... 1908
PEET, MAX M., M. D., Ann Arbor, Mich. 1913
PENNELL, HOWARD Y., M. D., Downington, Pa. 1894
PHILIPP, P. B., 220 Broadway, New York City 1917
PHILLIPS, A. H., Princeton, N. J. 1895
POOLE, EARL L., Reading, Pa. 1910
REDFIELD, ALFRED C., Cambridge, Mass. 1908

REGAR, H. SEVERN, Norristown, Pa. 1917
RODDY, H. JUSTIN, State Normal School, Millersville, Pa. 1895
ROGERS, CHAS. H., Princeton, N. J. 1905
SHARPLES, ROBERT P., West Chester, Pa. 1906
SILVESTER, CAPT. C. F., Princeton, N. J. 1901
SIMPSON, R. B., Warren, Warren Co., Pa. 1907
SORENSEN, FREDERICK, Chalmersgarten, Gothenburg, Sweden 1900
SPAETH, REYNOLD A., New Haven, Conn. 1901
STACK, FREDERICK W., Doubleday, Page & Co., New York City.... 1905
STONE, HUGH E., Coatesville, Pa. 1895
TODD, W. E. CLYDE, Carnegie Museum, Pittsburgh, Pa. 1895
WARRINGTON, HENRY, San Francisco, Cal. 1896
WHITAKER, WILLIAM L., Ada, Okla. 1893
WISLER, J. JAY, Columbia, Pa. 1904
YOUNG, ROBERT T., PH. D., State University, N. Dakota..... 1892

DECEASED MEMBERS.

Died.

BENNERS, LIEUTENANT ARCHIBALD, Associate Member. .....July 3, 1918
BROWN, JOHN FARNUM, Active Member .....May 13, 1894
BUSH, WALTER D., Corresponding Member.....Aug. 11, 1904
CRISPIN, WILLIAM B., Corresponding Member .....May 9, 1913
DETWILER, JOHN W., M. D., Corresponding Member.....Sept. 26, 1898
EVANS, ERNEST M., Associate Member .....June 29, 1911
FARQUHAR, ARTHUR, Associate Member.....Feb. 21, 1920
GRIFFITHS, BARTRAM W., Associate Member .....Dec. 21, 1916
HALES, HENRY T., Corresponding Member .....Nov. 6, 1913
HOLMES, LARUE K., Corresponding Member .....May 10, 1900
HOOPES, JOSIAH, Corresponding Member .....Jan. 16, 1904
KOCH, AUGUST, Corresponding Member .....Feb. 15, 1907
MOORE, GILBERT H., Associate Member .....May 28, 1899
ONDERDONK, ELMER, Associate Member .....Sept. 4, 1913
OWEN, FREDERICK N., Associate Member .....Dec. 27, 1905
NEWBOLD, WILLIAM HENRY, Associate Member .....May 25, 1917
PATTERSON, WILLIAM, Corresponding Member .....Aug. 27, 1900
PLATT, CHAS. 3RD, Associate Member.....Aug. 21, 1918
RAUB, M. W., M. D., Corresponding Member .....Aug. 8, 1914
RAWLE, FRANCIS W., Associate Member .....June 12, 1911
SEISS, C. FEW, Associate Member.....Sept. 5, 1915
SHEPPARD, EDWIN, Associate Member .....April 7, 1904
SMITH, WILLIAM W., Associate Member .....July 3, 1892
WELLES, CHARLES S., Associate Member .....Feb. 24, 1914
WERNER, WILLIAM H., Corresponding Member .....May 13, 1912
WOODHOUSE, SAMUEL W., M. D., Honorary Member .....Oct. 23, 1904
WRIGHT, SAMUEL, Active Member .....Jan. 18, 1917
WINDLE, FRANCIS, Associate Member .....Feb. 24, 1917

INDEX TO SPECIES

Every mention of a bird, either by common or technical name, *except* in the Migration Report, is indexed under the current technical name of the species.

Accipiter cooperi, 20, 45
velox, 19
Ammodramus sav. passerinus, 45
Archilochus colubris, 10, 15

Bartramia longicauda, 45
Branta canadensis, 42
Bubo virginianus, 21, 40
Buteo platypterus, 19

Circus hudsonius, 44
Cistothorus stellaris, 20, 44
Corvus b. brachyrhynchos, 21
Creciscus jamaicensis, 44

Dendroica coronata, 40
fusca, 42
tigrina, 40
virens, 42
Dolichonyx oryzivorus, 44
Dryobates v. villosus, 15

Ectopistes migratorius, 42
Empidonax flaviventris, 40
trailli alnorum, 15, 44

Gallinago delicata, 45

Haliæetus l. leucocephalus, 40, 42
Hesperiphona v. vespertina, 45
Hirundo erythrogastra, 43

Icteria v. virens, 20
Icterus galbula, 45

Marila marila, 42, 45
valisineria, 42
Meleagris gallopavo silvestris, 20

Nuttallornis borealis, 40
Nycticorax n. naevius, 42

Olor columbianus, 42
Otocoris alpestris praticola, 19

Pandion haliaetus carolinensis, 43
Pelidna alpina sakhalina, 41
Philohela minor, 20
Phlœotomus pileatus abieticola, 14
Planesticus m. migratorius, 41

Regulus s. satrapa, 42

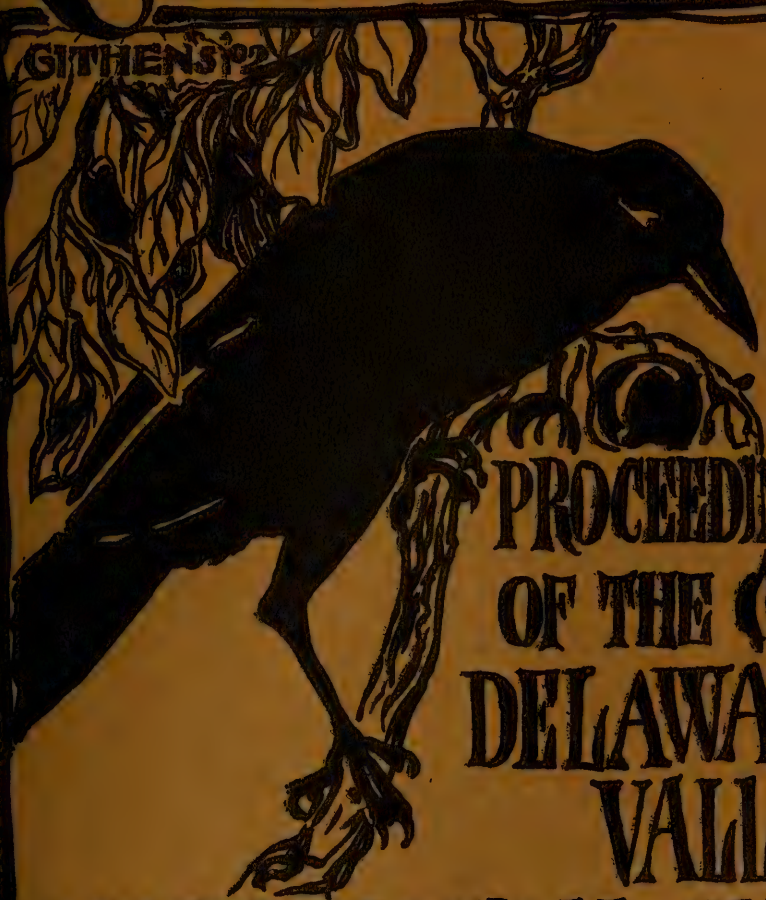
Seiurus motacilla, 20
Sialia s. sialis, 41
Spizella p. passerina, 41
p. pusilla, 15, 19, 41
Squatarola squatarola, 41
Stelgidopteryx serripennis, 42

Vermivora chrysoptera, 44
pinus, 45
rubricapilla, 20, 40, 42, 44

Zamelodia ludoviciana, 20

CASSINIA

A BIRD ANNUAL



JAN 21 1924
263288

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB OF PHILADELPHIA

Issued July, 1923.

1920
1921

ISSUED JULY, 1923

CASSINIA

An Annual Devoted to the Ornithology of Pennsylvania, New Jersey, and Delaware

CONTENTS 1920-1921

		PAGE
Stewardson Brown (*Frontispiece portrait*)	WITMER STONE	1
Summer Birds of Adams and Franklin Counties, Pennsylvania	J. FLETCHER STREET	8
Report on the Spring Migration of 1920		20
Report on the Spring Migration of 1921		35
Abstract of the Proceedings of the Delaware Valley Ornithological Club for 1920		50
Abstract of the Proceedings of the Delaware Valley Ornithological Club for 1921		55
Club Notes		60
Bibliography, 1920–1921		61
Officers and Members of the D. V. O. C., 1922–1923		65

PUBLICATIONS OF THE D. V. O. C.

The Birds of Eastern Pennsylvania and New Jersey, by Witmer Stone, pp. 176 with two maps and portrait of Alex. Wilson. One Dollar and a half. (Post paid, $1.62)

Abstract of Proceedings, Full Set Nos. I–IV. (1890–1900) pp. 98, Fifty cents

Cassinia, published annually beginning with 1901; comprising papers relating to the Ornithology of Pennsylvania, New Jersey and Delaware, and an abstract of the proceedings of the Club. Edited beginning with No. XX, 1916, by Spencer Trotter. Subscription price Fifty cents

Back numbers of most issues still obtainable at subscription prices.

Address **Delaware Valley Ornithological Club,**
Care **Academy of Natural Sciences,**
Logan Square, Philadelphia.

Contributed articles, books, and all publications should be sent to Dr. Spencer Trotter, Swarthmore College, Swarthmore, Pa.

Publication Committee

GEORGE SPENCER MORRIS *, *Chairman*,

SAMUEL C. PALMER, WITMER STONE, SPENCER TROTTER.

* deceased.

Steinadon Brum

263288
JAN 24 1924

CASSINIA

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB

No. XXIV. PHILADELPHIA, PA. 1920-21.

Stewardson Brown

BY WITMER STONE

While technical knowledge and activity in research are admittedly necessary for the successful progress of a club such as ours there would be no club were it not for further qualities exhibited in the membership. There must be personalities that hold us together—that inspire respect and affection and weld bonds of friendship that will not yield with the lapse of time.

Stewardson Brown possessed such qualities in a marked degree and it is no detriment to his scientific knowledge to say that it it will be in this connection that his memory will be cherished in the years to come by those whose privilege it was to be associated with him. And in the promotion of good-fellowship and in the cheerful and unselfish aid that he rendered both to individual members and to the club, lies perhaps his greatest service to the D. V. O. C.

I first became acquainted with Brown in the autumn of 1877. I had entered the Germantown Academy, and found among the other new boys who were to be my classmates, the late

Amos P. Brown, sometime Professor of Mineralogy and Geology in the University of Pennsylvania. Living not far from one another we became close friends, and through him I met his brother Stewardson, a few years his junior. The family of seven sons and two daughters resided with their parents at "Restalrig," one of the Logan properties near Wayne Junction, adjoining on the south the famous homestead "Stenton," rich in historic associations. It lay on the extreme eastern edge of Germantown and beyond it stretched miles of open country, with delightful bits of woodland here and there, and the Wingohocking Creek, then a clear open stream, flowing not far away. The surroundings were ideal for the development of a love for natural history; and the atmosphere of the home equally so. There was a general interest in out-door life in the family, and a love of hunting and fishing on the part of the father and elder brothers. A gun closet in the hall was ever ready to furnish the means of securing any rare bird that visited the neighborhood, while many mounted specimens graced the bookcases in the parlor. And life there was not bound about by narrow restrictions such as some parents feel it necessary to impose. There were flower beds, shrubbery, orchards and a large old-fashioned vegetable garden with a grape wall, and extensive hotbeds. In this enclosure each of the boys, so long as they desired, had a small patch of his own where flowers and early vegetables were raised.

In this environment Stewardson Brown was born April 29, 1867, and here he resided until the family moved to East Penn St., Germantown, in 1900.

He naturally developed an interest in nature, and a love of out-door sports,—cricket, baseball, etc., for which ample opportunity was offered without leaving his home grounds. Especially however, was he attached to the garden and from constant association with the gardeners he attained at an early age a knowledge of cultivated and wild plants, trees and shrubs which formed the foundation of his later career.

Stewardson was the fifth son of Amos P. and Frances Brown and was descended from Henry Brown who emigrated from England to Haverhill, Mass., in 1639. One of his grand-

mothers was Elizabeth Stewardson, sister of Dr. Thomas Stewardson, an eminent physician, scientist and botanist of his time, and from the Stewardsons doubtless came the strong interest in natural history so manifest in Stewardson Brown as well as in his brother Amos.

We three boys had very many interests in common—a love of nature, of music and of out-door athletic exercises—and we became inseparable companions. Indeed for a period of more than ten years we spent almost our entire spare time at Restalrig or in the immediate vicinity mainly in collecting and studying specimens of plants, animals and minerals. Stewardson was preeminently the botanist of the party and Amos the geologist, although we each absorbed a healthy amount of knowledge upon all branches of natural history.

In 1882 in conjunction with my late brother Frederick D. Stone Jr., and Brown's younger brothers, Herbert and Francis H., we formed the "Wilson Natural Science Association" which met in our house where a room had been transformed into a museum for the housing of our collections; and here weekly sessions were held and papers read with all the formality of a more serious organization. While our activities were admittedly very local in scope, I have since been impressed with the admirable basis that they afforded for our future work, better, I am inclined to think, than would have been derived from less concentrated work over a wider field. Our aim was to become familiar with all of the animal and plant life of that part of Germantown as well as the minerals and rocks, and I think we nearly succeeded.

For several seasons Stewardson and his brothers spent the months of July and August with an aunt at Pt. Pleasant, N. J. and there he became acquainted with the wonderful flora of the Pine Barrens as well as with the shore birds, marsh finches, gulls and fish-hawks, and with new and rare insects, washed up on the beach and the shore of the Manasquan river, and many were the additions to our museum from this source. Together we visited my ancestors' homestead in central Chester Co., Pa., and in 1886 spent a week at York Furnace on the lower Susquehanna where we found a still different fauna and flora.

After leaving school in 1885, Stewardson Brown entered the offices of the Lehigh Valley Railroad where he remained until 1900 when he accepted the position of Assistant Curator at the Academy of Natural Science in charge of the herbarium, and there his real scientific career began.

The writer became connected with the Academy as early as March, 1888, and almost immediately Stewardson had begun to visit the institution becoming a member on January 27, 1891. He soon made the acquaintance of Dr. J. Bernard Brinton who was at that time heading a party of younger botanists on Sunday and holiday collecting trips to points in the neighborhood of Philadelphia.

On these excursions he met many of the men with whom he later became closely associated in the activities of the Botanical Section of the Academy and the Philadelphia Botanical Club. This Club was organized in 1892 by Dr. Brinton and the coterie of young botanists that he had brought together. Brown was the first secretary and in later years became the president.

His first interest had always been botany and the service he rendered the Academy in caring for the herbarium during a critical period of its history when the volunteer workers of earlier years were passing away and the entire arrangement of the collection and method of supervision had to be completely revised, will probably never be fully realized. During his years of service in the herbarium he made the acquaintance of many botanists of other institutions, notably Dr. N. L. Britton who became a close personal friend. Brown also became affiliated with other societies, being elected a member of the Torrey Botanical Club, the Botanical Society of America and the American Association for the Advancement of Science, as well as Professor of Botany to the Pennsylvania Horticultural Society and lecturer on botany in the Ludwick Institute Courses.

He had a charm of character and a magnetism that drew to him many persons interested in plant life, beginners as well as those advanced in the study, and he soon took the place that Dr. Brinton had earlier filled as the head of those whose activities kept the Botanical Club in continued operation. He was editor of the Club's annual publication *Bartonia*, and spared no effort to make the meetings attractive and instructive.

In the early days of the Club he introduced the members to the lower Susquehanna Valley which he had visited in former years, and later on made tours of Pike and Wayne and Somerset Counties, Pennsylvania, with C. F. Saunders the well-known botanical author, while with the writer he explored many parts of the New Jersey Pine Barrens.

In 1904 he visited the Florida Keys with H. W. Fowler, and in 1906 and again in 1908, traveled through the Canadian Rockies with Mrs. Chas. Schaffer, making valuable collections upon which was based his well-known volume on the flora of the region which was illustrated by reproductions of Mrs. Shaffer's paintings. A few years previously he published a handbook of the flora of Philadelphia and vicinity in conjunction with Dr. Ida A. Keller which was largely used in the city high schools. In 1910 Brown accompanied his brother to Jamaica and in 1911 was botanist on an expedition to Trinidad and Venezuela, organized by Mr. Francis E. Bond, one of his old schoolmates. He also made trips to Bermuda in 1905, 1909, 1912, 1913 and 1914 and to Porto Rico in 1915 in company with Dr. N. L. Britton.

On all of these expeditions valuable collections were obtained which greatly enriched the Academy's herbarium, while Brown's knowledge of plants was vastly extended. The constant care of the herbarium and his devotion to horticulture made him familiar with many exotics and the knowledge obtained in the tropics only increased his ability to identify specimens on sight—an ability which he possessed to a remarkable degree. This sort of botanical knowledge always appealed to him much more than the differentiation of the unlimited races and varieties of the present-day specialist.

Brown's interest in birds was only second to that in plants. In our school days in Germantown we learned the local birds together and the first specimen of many a species to grace our cabinet was secured by Stewardson. He became thoroughly familiar with all the local species in their various plumages and was a most accurate field ornithologist. We jointly compiled during these years the migration record for Germantown which went to the U. S. Dept. of Agriculture. The D. V. O. C. was

founded soon after I came to the Academy and moved its meeting place to this institution in 1891. Brown was elected an Associate on October 6 of that year and became an Active Member January 7, 1897, served as Treasurer 1901–1907; as Vice President 1908–12, and as President 1913–1915. He became an Associate of the American Ornithologists' Union in November, 1895 and took a prominent part in arranging for and managing the several meetings that were held in Philadelphia.

On all his botanical trips he was constantly alert for ornithological information and favored the Club with many most interesting communications. As early as 1891 he addressed us on bird-life at Harvey's Lake, Pa., and later on ornithological observations at Point Pleasant, N. J., Tobyhanna and Ganoga, Pa., while he accompanied Francis R. Cope, Jr., on an ornithological trip through Clinton and Potter Cos., Pa., which was reported upon in CASSINIA for 1901. His observations on the birds of the West Indies, Bermuda and Venezuela were still more noteworthy communications, while his wide experience furnished material for comments in various discussions at numerous meetings.

His technical contributions as we have already said were by no means the full measure of his worth to the D. V. O. C. His cheerful smile and cordial greeting, his constant attendance at meetings so long as health permitted, and his never-failing assumption of responsibilities and proffer of assistance—these were the qualities that remain indelibly in our memory, qualities as precious as they are rare.

It is distressing to see so active a career cut short as was his by the serious illnesses which beset him in 1913 and 1915–1916 and by the accident that befell him in 1920 and culminated in his death on March 14, 1921. And yet the manly way in which he faced the inevitable and the continued cheerfulness with which he turned to find enjoyment in the limited field of his garden, where the cultivation of flowers and the study of such casual birds as came there had to take the place of trips farther afield, could not help but inspire greater respect and affection for him in the hearts of those of us who knew him best.

It will be a gratification to all of us to remember the keen

enjoyment that he derived from the Washington's Birthday trip of the D. V. O. C. in 1919, when the shelter of Street's cabin at New Lisbon, N. J., made it possible for him to visit again the Pine Barrens which held so many delightful associations and to share once more the companionship of the Club in the field, which ever meant so much to him.

Summer Birds of Adams and Franklin Counties, Pennsylvania

BY J. FLETCHER STREET

THE need of more information on the bird life of south central Pennsylvania just north of Mason and Dixon's line led to an interesting trip through Adams, Franklin and Cumberland Counties during the middle of June 1920.

Thanks to the hospitality of W. L. Baily the trip was made by automobile starting from his home in Ardmore, early on the morning of June 16, S. N. Rhoads, Witmer Stone and J. Fletcher Street being the other members of the party. The car was loaded with all the necessities incident to such an expedition, and with luncheon enough to carry us through the first day, thanks to the attention of Mrs. Baily.

Having no desire to make observations in the more eastern counties, which have been more thoroughly studied by ornithologists, we sped rapidly along over the Lincoln Highway through Montgomery and Chester Counties, over the rolling hills which form the water-shed between the Delaware and Schuylkill drainage and down into the broad Chester Valley. A changing panorama of country scenery was ever flashing by; low woodlands whence came the songs of Wood Thrush and Ovenbird, open meadows with their nesting Redwings, and the familiar chants of Yellow-throats and Song Sparrows; high ridges with gaunt trunks of dead chestnut trees victims of the blight, and upland fields where Meadowlarks took wing as we sped by. Next we crossed the hills separating the Chester and Pequea Valleys and passed through at the Gap, between the Welsh Mountain and the Mine Ridge, entering Lancaster County, the richest agricultural county in the State. Here intensive farming has minimized the woodland and bird life is almost entirely confined to open-ground species. There

are flocks of Grackles feeding in the fields and nesting in the evergreens which surround nearly every farmhouse, and Meadowlarks are more numerous, while from the fence posts Grasshopper Sparrows buzz while Vespers sing from the telegraph wires. The Red-headed Woodpecker also became a conspicuous feature of the avifauna.

We soon passed the cities of Lancaster and Columbia and crossed the long bridge spanning the Susquehanna River into York County which is quickly traversed and at 1.30 P. M. crossed the Conewago Creek into Adams County where we stopped for lunch near Abbottstown and made our first bird list. We made a second stop at Rock Creek east of Gettysburg but were soon driven to take refuge in the town by a severe thunder storm and later in the afternoon proceeded to Fairfield where we spent the night, securing a second bird-list before being driven in by another storm.

After an early start on the morning of the 17th we reached Jack's Mountain a considerable eminence which we had sighted to the westward the evening before. Here we spent several hours making a pretty careful study of the bird-life up to the summit which is about 1000 feet above sea level.

There was an interesting combination of species, such typically Carolinian birds as the Chat, Cardinal and Kentucky Warbler occurring along with the Chestnut-sided Warbler a distinctly Alleghanian form, and the Black and White Warbler and Redstart both more characteristic of this latter fauna. Indigo Buntings were most conspicuous and numerous while Hooded Warblers and Red-eyed Vireos came next.

Returning to the car we ascended the highway by a very steep grade to the road summit of Jack's Mountain about three miles west of Fairfield, where an exceedingly beautiful panorama of mountains and valleys lay before us. We descended into another valley and stopped for lunch at Charmian just over the Franklin County line and made another survey of the avifauna finding nearly the same species as at Jack's Mountain.

We then climbed up the road to Blue Ridge Summit and descended again to Waynesboro and then on to Greencastle where we put up for the night. Here we noted a most inter-

esting and unusual ornithological occurrence, in the Martin colony which is established in the very center of the town, large numbers of birds occupying boxes which have been placed on trees and buildings on the busiest street corners where traffic is heaviest. They are from seven to fifteen feet from the ground and the birds dart in and out over the heads of pedestrians or hotel visitors resting in chairs along the side walk.

Here too we met Mr. G. Fred Ziegler, Jr. a local ornithologist who the next morning conducted us to favorite spots about the town in search of birds; but woodland being scarce in this broad cultivated valley, we did not secure a large list. From Greencastle we went to Mercersburg, stopping en route along the Conococheague Creek where Baily found a Rose-breasted Grosbeak and Street saw a pair of Blue Grosbeaks.

We then proceeded to Foltz which is located among well wooded hills and by far the most attractive bird country we have encountered since leaving Jack's Mountain. Down on the banks of Buck Run is a rough stone monument marking the birthplace of James Buchanan, President of the United States. Close by is a dense grove of hemlocks and above that a deciduous forest. Here we could hear at one time the songs of the Black-throated Green Warbler, the Hooded, Kentucky, Chat and Louisiana Water-Thrush, a curious intermingling of northern and southern forms. The elevation was from 900 to 1000 feet.

We then turned our course northeast and skirted the foot of the mountains all the way to Fort Loudon where we arrived late in the afternoon. After supper, we walked back to Rocky Hollow Ravine behind the village and here in the gathering dusk we heard our first Whip-poor-will of the trip, which was joined by others until a whole chorus of them was singing all about us, while a Grouse boomed from the opposite mountain side and far up above came the cry of a Great Horned Owl, which was answered by a farm laborer who soon after came up to us and informed us that he and the owl frequently communicated in this way in the evening.

Immediately opposite the village rose Jordan's Knob a steep

mountain some 1200 feet above the valley, which is itself 600 feet above sea level. This we ascended the following morning, finding nothing unusual except the unexpected presence of the Worm-eating Warbler, but, losing our way, we crossed completely over the knob and descended through a deciduous wood sprinkled with hemlocks to a blind valley, known as Horse Valley down which flows the Conodoguenet Creek. In the woods we were surprised to find Blackburnian Warblers while out in the open along the bushy fence rows were Bewick's Wrens, dodging along ahead of us with much tail action. This is the characteristic species of this region where it was first discovered by Spencer F. Baird on his collecting trips from Carlisle seventy-five years before.

A long tramp northward along the valley and a steep climb over the mountain at Freestone, the first pass, brought us out at Metal whence we worked our way back to Ft. Loudon.

Having now connected our exploration with the well worked country of Baird, we felt that our task was completed and we started that evening for Carlisle and the next day returned home via Harrisburg and Lancaster.

Species Observed

1. Black Duck, June 18. One noted along west branch of Conococheague Creek below Mercersburg.

2. Great Blue Heron, June 18. One noted along west branch of Conococheague Creek below Mercersburg.

3. Black-crowned Night Heron, June 18. One noted along west branch of Conococheague Creek below Mercersburg.

4. Little Green Heron, June 18. One noted along west branch of Conococheague Creek below Mercersburg.

5. Spotted Sandpiper. Fairly common along streams and meadows in Adams Co. Noted at Greencastle on June 17. Not observed on June 18 on trip from Greencastle to Ft. Loudon. Two observed on June 19 at Fort Loudon.

6. Killdeer. Fairly common from Abbottsford to Fairfield on June 16. Not noted from Fairfield to Greencastle on 17th. Two or three noted from Greencastle to Ft. Loudon on 18th. A few observed at Ft. Loudon along west branch of Conococheague Creek on 19th.

7. Bartramian Sandpiper. Five observed west of Gettysburg on 16th. One seen at Greencastle on 18th.

8. Ruffed Grouse. One observed in woods at Little Cove Creek on 18th. Heard booming at evening of same day in Rocky Hollow Ravine near Ft. Loudon.

9. Bobwhite. One heard at Metal on 19th.

10. Dove. Fairly common from Abbottsford to Fairfield on 16th. A few observed from Fairfield to Greencastle on 17th. From three to four noted from Greencastle to Ft. Loudon on 18th. From two to three noted about Ft. Loudon on 19th.

11. Turkey Vulture. A few noted from Abbottsford to Fairfield on 16th. Fairly common from Fairfield to Greencastle on 17th. Common at Greencastle. Three or four from Greencastle to Ft. Loudon on 18th. Two or three about Ft. Loudon.

12. Broad-winged Hawk. Heard one calling at Charmian on 17th.

13. Sparrow Hawk. One observed from Abbottsford to Fairfield on 16th. Two noted from Greencastle to Ft. Loudon on 18th.

14. Great Horned Owl. Heard calling from Rocky Hollow Ravine near Ft. Loudon on evening of 18th at 8.00 P. M.

15. Yellow-billed Cuckoo. One observed from Abbottsford to Fairfield on 16th. Fairly common from Fairfield to Greencastle on 19th. Common at Greencastle on 18th and from Greencastle to Ft. Loudon. Common about Ft. Loudon and on Jordan's Knob and upper Horse Valley on 19th.

16. Black-billed Cuckoo. Two heard on Jordan's Knob on 19th.

17. Kingfisher. One observed at dam at Little Cove Creek above Foltz on 18th.

18. Hairy Woodpecker. Two observed from Fairfield to Greencastle on 17th. Fairly common at Greencastle and from Greencastle to Ft. Loudon on 18th. One observed near Ft. Loudon on 19th.

19. Downy Woodpecker. Two observed from Fairfield to Greencastle on 17th. One at Greencastle on 17th. Three or four from Greencastle to Ft. Loudon on 18th. Two at Ft. Loudon on 19th.

20. Red-headed Woodpecker. None observed from Abbottsford to Fairfield on 16th. Observed as most common Woodpecker between Fairfield and Greencastle on 17th. Very common between Greencastle and Ft. Loudon on 18th. One noted at Ft. Loudon on 19th. The commonest Woodpecker in both counties.

21. Flicker. A few between Abbottsford and Fairfield on 16th. A few between Fairfield and Greencastle on 17th. One or two between New Castle and Ft. Loudon on 19th. One at Ft. Louden on 19th.

22. Whip-poor-will. Not advantageously located to hear species on evenings of 16th and 17th. On evening of 18th heard in great number near Rocky Hollow Ravine in vicinity of Ft. Loudon, the birds commencing to call about 8.00 P. M.

23. Nighthawk. Saw one at west branch of Conococheague Creek on the 18th and two more in the evening at Ft. Loudon. On the evening of 19th heard one over city of Carlisle.

24. Swift. Abundant from Abbottsford to Fairfield on 16th. Common from Fairfield to Greencastle on 17th. Common from Greencastle to Ft. Loudon on 18th. Very common at Ft. Loudon on 19th. The relative abundance of species determined by the number of buildings in all districts.

25. Hummingbird. One observed at Conococheague Creek near Greencastle on 17th. Observed at same point on 18th. Not observed elsewhere.

26. Kingbird. Common between Abbottsford and Fairfield on 16th. A few between Fairfield and Greencastle on 17th. One noted near Mercersburg on 18th. One seen at Metal on 19th.

27. Crested Flycatcher. Common from Abbottsford to Fairfield on 16th. A few noted between Fairfield and Greencastle on 17th. A few between Greencastle and Ft. Loudon on 18th. One heard at Ft. Loudon on 19th.

28. Phoebe. One or two between Fairfield and Greencastle on 17th. Nesting under bridge over west branch of Conococheague Creek near Mercersburg on 18th.

29. Wood Pewee. A few heard between Abbottsford and Fairfield on 16th. Two or three from Fairfield to Greencastle

on 17th. Common at Greencastle and from Greencastle to Ft. Loudon on 18th. A few noted at Ft. Loudon on 19th.

30. Blue Jay. One observed between Abbottsford and Fairfield on 16th. A few between Fairfield and Greencastle on 17th. One or two noted between Greencastle and Ft. Loudon on 18th. One observed at Ft. Loudon on 19th.

31. Crow. A few observed from Abbottsford to Fairfield on 16th. Fairly common from Fairfield to Greencastle on 17th. A few between Greencastle and Ft. Loudon on 18th. Common about Ft. Loudon.

32. Fish Crow.? Rhoads and Street heard call-notes over Conococheague Creek at Greencastle which were assumed as belonging to this species.

33. Starling. Common between Abbottsford to Fairfield on 16th. Not observed between Fairfield and Greencastle on 17th. A few seen at Greencastle on 18th. Ziegler states that the species was first observed in the town last year.

34. Cowbird. Heard two at Greencastle and one between Greencastle and Ft. Loudon on 18th. Saw Song Sparrow feeding Cowbird below Harrisburg, on 20th.

35. Red-winged Blackbird. Fairly common from Abbottsford to Fairfield on 16th. Not observed between Fairfield and Greencastle on 17th. Two or three noted from Greencastle to Ft. Loudon on 18th. Two observed along west branch of Conococheague Creek at Ft. Loudon on 19th. Not observed as a common species in Franklin County.

36. Meadowlark. Common from Abbottsford to Fairfield on 16th. Common from Fairfield to Greencastle on 17th. Common from Greencastle to Ft. Loudon on 18th. A few noted about Ft. Loudon on 19th. Relatively common in both counties in suitable environments.

37. Orchard Oriole. A few seen between Abbottsford and Fairfield on 16th. Two or three noted from Fairfield to Greencastle on 17th. A few noted between Greencastle and Ft. Loudon on 18th.

38. Baltimore Oriole. One noted at Abbottsford on 16th. Two or three observed between Fairfield and Greencastle on 17th. One or two noted between Greencastle and Ft. Loudon on 18th. One noted at Ft. Loudon on 19th.

39. Purple Grackle. An abundant species between Abbottsford and Fairfield on 16th. Abundant between Fairfield and Greencastle on 17th. Abundant between Greencastle and Ft. Loudon on 18th. Abundant about Ft. Loudon on 19th. The most widely distributed and established species and most abundant species in both counties.

40. Goldfinch. A few noted between Abbottsford and Fairfield on 16th. Abundant between Fairfield and Greencastle on 17th. Common between Greencastle and Ft. Loudon on 18th. A few about Ft. Loudon on 19th.

41. Vesper Sparrow. Abundant between Abbottsford and Fairfield on 16th. Abundant between Fairfield and Greencastle on 17th. Abundant between Greencastle and Ft. Loudon on 18th. A few about Ft. Loudon on 19th. The most abundant sparrow in both counties.

42. Grasshopper Sparrow. A few noted between Abbottsford and Fairfield on 16th. Common between Fairfield and Greencastle on 17th. Abundant between Greencastle and Ft. Loudon on 18th. A few about Ft. Loudon on 19th. The second commonest sparrow in both counties.

43. Chipping Sparrow. A few noted between Abbottsford and Fairfield on 16th. Fairly common from Fairfield to Greencastle on 17th. A few between Greencastle and Ft. Loudon on 18th. A few on the lower slopes of Jordan's Knob near Ft. Loudon on 19th.

44. Field Sparrow. A few noted between Abbottsford and Fairfield on 16th. Fairly common from Fairfield to Greencastle, locating one nest with four young at Charmian on 17th. A few observed between Greencastle and Ft. Loudon on 18th. A few on the lower slopes of Jordon's Knob and in Horse Valley on the 19th.

45. Song Sparrow. A few observed between Abbottsford and Fairfield on 16th. A few noted between Fairfield and Greencastle on 17th. A few noted between Greencastle and Ft. Loudon on 18th, Rhoads finding a nest in the valley of the west branch of the Conococheague Creek near Mercersburg. A few observed in the vicinity of Ft. Loudon on 19th.

46. Chewink. A few noted between Abbottsford and Fair-

field on 16th. Fairly common from Fairfield to Greencastle on 17th. A few between Greencastle and Ft. Loudon on 18th. A few on Jordan's Knob on the 19th.

47. Cardinal. Common on Jack's Mountain below Fairfield and at Charmian on 17th. A few noted between Greencastle and Ft. Loudon on 18th. A few observed about Ft. Loudon on 19th.

48. Blue Grosbeak. Street observed on the morning of the 18th a male and female of this species flying across the west branch of the Conococheague Creek above the Mercersburg Road. Upon wading the stream he again observed the female through his glasses.

49. Rose-breasted Grosbeak. Bailey observed on the morning of the 18th a female of this species in about the same locality where the Blue Grosbeak was observed.

50. Indigo Bunting. One seen between Abbottsford and Fairfield on 16th. Abundant from Fairfield to Greencastle on 17th, Street finding nest with two eggs along Conococheague Creek at Greencastle. Common on 18th between Greencastle and Ft. Loudon. A few observed about Ft. Loudon on Jordan's Knob and in Horse Valley on 19th.

51. Scarlet Tanager. A common bird in woodland between Fairfield and Greencastle on 17th. Common between Greencastle and Ft. Loudon on 18th. Common on Jordan's Knob on the 19th.

52. Purple Martin. Commonly observed about villages en route, finding well established colonies at Fairfield, Greencastle and Ft. Loudon.

53. Barn Swallow. Common between Abbottsford and Fairfield on 16th. Fairly common from Fairfield to Greencastle on 17th. Abundant at Ft. Loudon on 18th. Common at Ft. Loudon and Metal on 19th.

54. Rough-winged Swallow. Observed about bridge over Conococheague Creek below Greencastle on 17th. Observed in same locality on the morning of the 18th.

55. Cedar Waxwing. Observed five on Jack's Mountain on 17th and two more en route from Jack's Mountain to Greencastle. A few noted between Greencastle and Ft. Loudon on the 18th. A few noted about Ft. Loudon on the 19th.

56. Red-eyed Vireo. Common from Fairfield to Greencastle on the 17th, a nest with three eggs being found on Jack's Mountain. Common about Greencastle on the 18th, Bailey finding nest. Common between Greencastle and Ft. Loudon. Common on Jordan's Knob and in Horse Valley on the 19th.

57. Yellow-throated Vireo. One observed at Charmian on 17th. Two heard at Ft. Loudon on 18th.

58. Warbling Vireo. One heard at Fairfield and one at Greencastle on 17th. Two heard between Greencastle and Ft. Loudon on 18th.

59. Black and White Warbler. Two or three heard on Jack's Mountain on 17th. Heard on Little Cove Creek on 18th above Foltz. Heard four or five on Jordan's Knob on 19th.

60. Worm-eating Warbler. Three observed on the slopes of Jack's Mountain on the 17th and common on Jordan's Knob on the 19th.

61. Yellow Warbler. Heard commonly between Abbottsford and Fairfield on 16th. One heard in town of Fairfield on 17th. One heard at Greencastle and one at Ft. Loudon on the 18th. A few in village of Ft. Loudon on 19th.

62. Chestnut-sided Warbler. Two observed on Jack's Mountain on 17th and one near Ridge Summit. A few noted on Jordan's Knob on 19th.

63. Blackburnian Warbler. Three singing males heard at head of Horse Valley and one on crest of mountain between Freestone and Metal on the 19th.

64. Black-throated Green Warbler. On the 18th heard from six to ten among dense groves of hemlocks bordering Little Cove Creek above Foltz. Two heard on Jordan's Knob on the 19th.

65. Pine Warbler. Several birds thought to be this species heard among a grove of *Pinus pungens* on the upper slopes of Jordan's Knob. All singing birds were apparently in pine trees but the presence of Worm-eating Warblers and Chipping Sparrows on the mountain as well, tends to leave the identification in some doubt without the absolute observance of the bird.

66. Ovenbird. Fairly common on Jack's Mountain on

17th. Along west branch of Conococheague Creek near Mercersburg and at Little Cove Creek above Foltz on 18th. On Jordan's Knob on 19th. Stone heard one on Little Cove Creek near Foltz on 18th.

67. Louisiana Water-Thrush. Found five on the northern slope of Jordan's Knob and along Creek in upper Horse Valley on 19th.

68. Kentucky Warbler. A few noted on Jack's Mountain on 17th. One observed along Little Cove Creek above Foltz on the 18th. One observed along lower slope of Jordan's Knob on 19th.

69. Maryland Yellow-throat. Observed one on Jack's Mountainon the 17th. One pair noted along west branch of Conococheague Creek below Mercersburg on the 18th. Observed three along west branch of Conococheague Creek at Ft. Loudon on the 19th.

70. Chat. An abundant species from Fairfield to Greencastle on 17th. Common from Greencastle to Ft. Loudon on 18th. Common on lower slopes of Jordan's Knob and in upper Horse Valley on 19th.

71. Hooded Warbler. Common on Jack's Mountain, Charmian and two or three near Blue Ridge Summit on the 17th. Common along Little Cove Creek above Foltz on the 18th. Common on Jordan's Knob and upper Horse Valley on 19th.

72. Redstart. One noted on Jack's Mountain on 17th.

73. Catbird. Observed as common from Fairfield to Greencastle on 17th. Fairly common from Greencastle to Ft. Loudon on 18th. A few about Ft. Loudon on 19th.

74. Brown Thrasher. One observed at Abbottsford on 16th. One observed at Greencastle on 18th and one on McConnellsburg Road above Little Cove Creek. One observed at Ft. Loudon on 19th. Apparently an uncommon species in both counties.

75. House Wren. A few noted between Abbottsford and Fairfield on 16th. Fairly common between Fairfield and Greencastle on 17th. Fairly common between Greencastle and Ft. Loudon on 18th. Common in Horse Valley on 19th.

76. Bewick's Wren. Noted along fence lines nine birds in all on the 19th in Horse Valley at four different stations, the birds being in twos and threes.

77. Tufted Titmouse. One observed near Gettysburg on 16th. Fairly common between Fairfield and Greencastle on 17th. Common from Greencastle to Ft. Loudon on 18th. Common on Jordan's Knob and in Horse Valley on 19th.

78. Black-capped Chickadee. Noted two or three in song on Jack's Mountain on the 17th. Noted one at Greencastle on the 18th. Observed two or three on Jordan's Knob on 19th.

79. Wood Thrush. One or two pairs observed on Jack's Mountain on the 17th and one near Greencastle. Two or three observed between Greencastle and Ft. Loudon on 18th. Five or six observed on Jordan's Knob and in Horse Valley. Not a very common species.

80. Robin. Abundant from Abbottsford to Fairfield on the 16th. Common from Fairfield to Greencastle on the 17th. Common between Greencastle and Ft. Loudon on the 18th. Very common in the valleys about Ft. Loudon on the 19th.

81. Bluebird. Fairly common between Abbottsford and Fairfield on the 16th. Common between Fairfield and Greencastle on the 17th. A few between Greencastle and Ft. Loudon on the 19th.

Report on The Spring Migration—1920

COMPILED BY WITMER STONE

Observers returning schedules.

New Jersey

Cape May, H. W. Hand.
Atlantic City, Mrs. N. S. Cromie.
Vineland, Mrs. A. K. Prince.
Downstown, W. W. Fair.
Camden, J. K. Potter.
Haddonfield, J. W. Tatum.
Moorestown, Miss A. A. Mickle.
Mrs. V. Wierman.
Rancocas, Miss Frances B. Stokes.

Pennsylvania

Concordville, Miss E. P. and J. F. Styer.
Media, Miss L. G. Allen, J. P. Moore, S. Omensetter.
Swarthmore, Samuel C. Palmer, P. E. Howard.
Addingham, D. E. Culver.
Lansdowne, J. D. Carter.
Wayne, C. E. Alexander.
West Chester, R. P. Sharples.
West Chester, I. G. Roberts.
West Chester, Mrs. H. P. Brinton.
West Chester, C. K. Himmelsbach.
Doylestown, G. MacReynolds.
Forest Grove, Miss A. K. Bewley.
Byberry, Miss Frances Richardson.
Merion, G. H. Beatty, Jr.
Frankford, R. F. Miller.
Mt. Airy, R. W. Barker.
Ardmore, W. L. Baily.
Haverford, W. J. Serrill.
Samuel Scoville, Jr.
Downingtown, A. P. Kelly.
Wyncote, Miss Esther Heacock.
Buckingham, Miss E. D. Broadhurst.
Newtown, J. E. Packer.
Collegeville, W. A. Kline.
Greencastle, G. F. Ziegler, Jr.
Reading, E. L. Poole.
Lopez, Otto Behr.

Delaware

Wilmington, P. M. Jenness.
Mrs. H. W. Fox.

NAME.	Rancocas, N. J. N. 4; E. 16.	Moorestown, N. J. N. 1; E. 12.	Camden, N. J. N. 0; E. 2.	Haddonfield, N. J. S. 5, E. 6.	Media, Pa. S. 2; W. 12.	Swarthmore, Pa. S. 3; W. 10.	Lansdowne, Pa. S. 1; W. 6.	Addingham, Pa. S. 1; W. 8.	Haverford and Ardmore, Pa. N. 4; W. 8.	Merion, Pa. N. 3; W. 4.	Wayne, Pa. N. 6; W. 11.	Germantown, Phila. N. 6; W. 1.	Byberry, Pa. N. 14; E. 5.	Frankford, Phila. N. 5; E. 5.	Bulk Arrival, 1920.
Canada Goose	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Green Heron	May 25	May 9	Apr.24	. . .	Apr.26	May 15	. . .	. . .	May 2	May 3	. . .	. . .	May 10	Apr.28	May 2
Night Heron	. . .	Apr.11	Apr. 2	May 9	May 11	Apr.29	. . .	. . .	May 16	May 15	. . .	. . .	. . .	Apr. 6	Apr.11
Spotted Sandpiper	May 2	May 2	Apr.19	May 9	Apr.30	May 15	. . .	Apr.24	Apr.25	. . .	. . .	May 16	May 6	Apr.27	May 2
Solitary Sandpiper	May 1	Apr.25	May 9	May 9	Apr.30	May 15	. . .	. . .	May 9	. . .	. . .	Apr.25	. . .	May 13	May 5
Killdeer	Mar.23	Mar.11	Mar.28	Mar.24	Apr.25	Mar.20	Mar.21	. . .	Mar.28	Feb.23	. . .	Mar.31	Mar. 9	Mar.14	Mar.14
Dove	. . .	Mar.18	Mar.24	Mar.28	Mar.10	Mar.21	Mar.28	Apr.11	Mar.18	Apr. 1	Mar.20	Mar.31	Apr. 1	Mar.25	Mar.24
Osprey	May 2	. . .	Apr.11	Apr.11	Mar.30	Apr.25	. . .	Feb.22	Apr.21	Apr.19	. . .	Apr.14	. . .	. . .	Apr.11
Turkey Vulture	Mar.20	Res.	. . .	Mar.26	. . .	Mar.14	. . .	Apr.25	Mar.28	Apr. 2	. . .	Apr. 1	Mar.30	Mar.11	Mar.14
Yellow-billed Cuckoo	. . .	May 12	. . .	May 12	May 13	. . .	. . .	May 22	May 9	. . .	. . .	May 9	May 5	May 28	May 12
Black-billed Cuckoo	. . .	. . .	May 8	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	May 23	May 19
Kingfisher	May 1	Res.	Apr. 2	Apr.11	Mar.23	Mar.31	. . .	Mar.23	Mar.27	Apr. 2	Mar.26	Mar.31	. . .	Mar.31	Mar.31
Yellow-bellied Sapsucker	. . .	Apr. 7	. .	. . .	. . .	Jan.27	. . .	. . .	. . .	. . .	. . .	May 9	. . .	Apr. 6	Apr. 7
Red-headed Woodpecker	. . .	. . .	. . .	May 14	. . .	June 4	. . .	. . .	May 11	. . .	. . .	May 9	May 24	May 11	May 11
Flicker	Mar.22	Mar.12	Mar. 7	Jan.20	Mar.20	Mar.24	Mar.20	Mar.26	Mar.20	Mar.22	Mar.27	Mar.23	Mar.26	Mar.18	Mar.22
Whip-poor-will	May 4	Apr.23	May 4	. . .	Apr.30	Apr.25	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	Apr.30
Nighthawk	. . .	. . .	May 12	May 21	May 20	. . .	. . .	May 27	. . .	May 20	. . .	May 21	. . .	May 18	May 20
Chimney Swift	Apr.28	Apr.18	Apr.22	Apr.24	Apr.21	Apr.22	May 2	Apr.22	Apr.25	. . .	. . .	Apr.21	Apr.24	Apr.26	Apr.22
Hummingbird	May 10	May 15	. . .	May 21	May 25	Apr.24	. . .	May 6	May 23	May 16	. . .	May 22	May 19	. . .	May 16
Kingbird	. . .	May 7	May 10	May 19	May 2	Apr.29	. . .	. . .	May 9	May 2	May 5	May 5	May 1	May 2	May 2
Crested Flycatcher	May 11	May 2	May 16	May 9	May 10	May 15	. . .	May 15	May 2	May 9	. . .	May 8	May 2	May 5	May 7
Phoebe	Mar.28	. . .	Mar.27	Apr.16	Mar.10	Mar.23	Mar.23	Mar.21	Mar.27	May 14	. . .	Mar.24	Mar.22	Mar.31	Mar.23

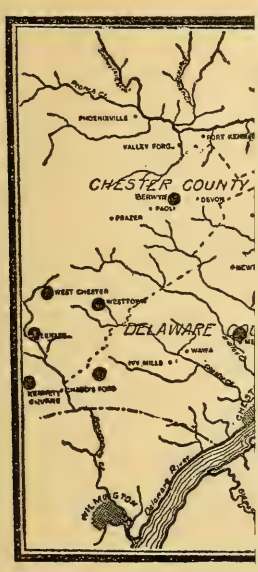
Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Haddonfield, N. J.	Media, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Addingham, Pa.	Haverford and Ardmore, Pa.	Merion, Pa.	Wayne, Pa.	Germantown, Phila.	Byberry, Pa.	Frankford, Phila.	Bulk Arrival, 1920.
Wood Pewee	May 11	May 9	May 16	May 23	. . .	May 15	May 20	May 21	May 15	. . .	. . .	. . .	. . .	May 16	May 15
Acadian Flycatcher	. . .	. . .	. . .	May 22	. . .	. . .	. . .	. . .	May 11	. . .	. . .	May 5	. . .	. . .	May 5
Least Flycatcher	. . .	. . .	. . .	May 16	May 13	. . .	. . .	. . .	May 8	. . .	. . .	Apr.26	. . .	May 2	May 2
Bobolink	May 8	May 9	. . .	May 8	. . .	. . .	. . .	. . .	May 9	. . .	. . .	. . .	May 7	May 6	May 8
Cowbird	. . .	. . .	. . .	. . .	Apr.25	Mar.30	. . .	Apr.13	Apr.25	May 8	. . .	. . .	. . .	Mar.18	Mar.30
Red-winged Blackbird	Mar.11	Mar.10	Mar.21	Mar.11	Mar.11	Mar.16	Mar.11	Mar.22	Mar.25	Mar.11	Mar.13	Mar.31	Mar.15	Mar.10	Mar.11
Meadowlark	. . .	Res.	Res.	Mar.11	Mar.11	Mar.20	Mar.13	Mar.18	Feb.23	. . .	. . .	Mar.13	Mar.23	Mar.11	Mar.11
Orchard Oriole	. . .	May 9	May 8	May 6	May 20	May 23	May 5	. . .	May 12	. . .	. . .	. . .	May 10	May 2	May 9
Baltimore Oriole	. . .	May 10	May 11	May 11	May 4	May 7	. . .	May 9	May 8	. . .	. . .	May 8	May 12	May 10	May 9
Rusty Blackbird	. . .	Apr.25	Apr.18	Mar.28	. . .	. . .	. . .	Apr. 3	Mar.27	. . .	. . .	. . .	. . .	Mar. 2	. . .
Purple Grackle	Mar.10	Mar. 4	Mar.13	Mar.14	Feb.26	Jan.11	Feb.23	Mar.13	Mar.10	Mar.11	Feb.20	Mar. 4	Mar. 6	Mar. 3	Apr. 4
Vesper Sparrow	. . .	Apr.25	Mar.28	Apr.11	Mar.28	Apr. 1	May 28	Mar.28	Mar.28	Mar.21	. . .	Mar.31	Mar.30	Mar.18	Mar.28
Savannah Sparrow	. . .	. . .	Mar.30	Apr.16	. . .	. . .	. . .	. . .	Apr.18	. . .	. . .	. . .	Mar.30	Mar.17	. . .
Grasshopper Sparrow	. . .	May 9	. . .	May 11	. . .	May 15	. . .	May 19	May 12	. . .	. . .	. . .	Apr.26	Apr.23	May 9
Chipping Sparrow	Apr.21	Mar.27	Apr.16	Apr.11	Mar.31	Mar.30	Mar.30	. . .	Apr. 3	Mar.27	. . .	Apr. 7	Apr. 3	Apr.15	Mar.31
Field Sparrow	. . .	Mar.25	Mar.14	Apr.11	Mar.28	Mar.21	Mar.28	Mar.27	Mar.27	Feb.22	. . .	Apr.18	Mar.23	Mar.15	Mar.23
Swamp Sparrow	. . .	Apr.30	Res.	Apr.11	. . .	Apr.19	. . .	. . .	Mar.11	May 2	. . .	. . .	. . .	May 10	. . .
Fox Sparrow	. . .	. . .	Mar. 7	. . .	Mar.15	Mar.20	Mar.15	. . .	Mar.14	Feb.22	. . .	Feb. 8	Mar.15	Mar.13	Mar.14
Chewink	Apr.22	Apr.18	Apr.18	Apr.16	Apr.14	Apr. 2	May 2	Apr.10	Apr.19	Apr. 2	. . .	Apr.25	Apr.15	Apr.26	Apr.16
Rose-breasted Grosbeak	. . .	May 7	May 16	May 16	. . .	May 15	May 11	. . .	May 5	May 9	. . .	May 22	. . .	. . .	May 9
Indigobird	. . .	May 7	May 16	May 16	May 7	May 15	May 10	May 16	May 11	May 16	May 21	May 16	May 16	May 11	May 15
Scarlet Tanager	. . .	May 10	May 8	May 11	May 7	May 6	May 9	May 6	May 9	. . .	May 19	May 15	Apr.28	May 12	May 9
Purple Martin	. . .	Apr.12	. . .	Apr.10	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Haddonfield, N. J.	Media, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Addingham, Pa.	Haverford and Ardmore, Pa.	Merion, Pa.	Wayne, Pa.	Germantown, Phila.	Byberry, Pa.	Frankford, Phila.	Bulk Arrival, 1920.
Cliff Swallow	. . .	. . .	. . .	May 16	. . .	May 15	. . .	Apr. 24	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Barn Swallow	Apr. 19	Apr. 18	Apr. 25	Apr. 22	Apr. 25	Apr. 22	Apr. 16	Apr. 24	Apr. 24	May 2	. . .	Apr. 21	. . .	Apr. 16	Apr. 22
Tree Swallow	. . .	May 2	Apr. 25	Apr. 16	May 9	Apr. 19	. . .	. . .	Apr. 24	May 9	. . .	May 15	. . .	Apr. 16	Apr. 22
Bank Swallow	. . .	. . .	Apr. 25	May 16	. . .	. . .	. . .	. . .	. . .	May 14	. . .	. . .	. . .	. . .	. . .
Rough-winged Swallow	. . .	. . .	Apr. 19	Apr. 18	. . .	Apr. 25	. . .	. . .	May 9	. . .	. . .	. . .	. . .	Apr. 21	Apr. 25
Cedarbird	. . .	May 22	. . .	Apr. 16	Mar. 3	Apr. 15	. . .	. . .	May 23	May 2	. . .	. . .	. . .	. . .	. . .
Red-eyed Vireo	. . .	May 9	May 8	May 9	May 7	May 10	May 7	May 21	May 9	May 1	May 11	. . .	May 10	May 11	May 9
Warbling Vireo	. . .	May 15	. . .	May 28	. . .	May 11	May 4	. . .	May 16	May 5	. . .	May 5	. . .	May 22	May 6
Yellow-throated Vireo	. . .	May 14	May 8	May 11	. . .	May 15	May 6	. .	May 9	. . .	. . .	May 5	May 14	. . .	May 9
Solitary Vireo	. . .	Apr. 30	Apr. 24	May 6	. . .	Apr. 30	. . .	. . .	Apr. 25	. . .	. . .	Apr. 25	Apr. 26	. . .	Apr. 25
White-eyed Vireo	. . .	Apr. 25	. . .	May 16	May 12	May 16	. . .	. . .	May 12	May 2	. . .	May 9	May 21	Apr. 25	May 7
Black and White Warbler	Apr. 24	Apr. 25	Apr. 24	Apr. 16	Apr. 29	Apr. 24	May 4	May 1	Apr. 24	Apr. 25	May 4	Apr. 18	Apr. 25	May 5	Apr. 25
Worm-eating Warbler	. . .	May 15	May 16	May 9	. . .	May 15	. . .	. . .	May 16	. . .	. . .	May 16	May 12	. . .	May 12
Blue-winged Warbler	. . .	May 9	May 8	May 11	May 7	May 12	. . .	. . .	May 16	. . .	. . .	. . .	. . .	May 12	May 9
Parula Warbler	. . .	May 2	May 5	May 9	May 16	May 9	May 7	. . .	May 8	May 9	. . .	May 2	May 18	May 15	May 8
Yellow Warbler	May 1	Apr. 23	Apr. 25	Apr. 24	May 5	May 15	May 3	. . .	May 11	May 9	. . .	. . .	May 1	Apr. 28	May 5
Black-throated Blue Warbler	. . .	May 2	May 4	May 9	May 13	May 12	May 14	May 16	May 1	May 9	. . .	May 6	May 5	May 12	May 6
Myrtle Warbler	May 4	Apr. 25	Apr. 23	Apr. 18	Apr. 25	Mar. 27	May 2	Apr. 25	Apr. 25	Apr. 25	. . .	Apr. 25	May 5	May 2	Apr. 25
Magnolia Warbler	. . .	May 7	May 16	May 11	May 4	May 12	May 11	. . .	May 12	May 15	. . .	. . .	May 13	May 12	May 12
Chestnut-sided Warbler	. . .	May 7	Apr. 24	May 11	May 4	May 13	May 11	May 23	May 9	May 9	. . .	Apr. 25	May 12	May 12	May 9
Black-poll Warbler	. . .	May 10	. . .	May 11	. . .	May 22	May 11	May 23	May 19	. . .	. . .	May 15	. . .	May 16	May 11
Blackburnian Warbler	. . .	May 15	May 16	. . .	May 16	May 15	. . .	. . .	May 9	. . .	. . .	May 2	May 10	May 12	May 11
Black-throated Green Warbler	. . .	May 14	May 1	May 9	Apr. 29	May 1	May 4	. . .	May 11	May 16	. . .	Apr. 26	. . .	Apr. 26	May 4

Name.	Rancocas, N. J.	Moorestown, N. J.	Camden, N. J.	Haddonfield, N. J.	Media, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Addingham, Pa.	Haverford and Ardmore, Pa.	Merion, Pa.	Wayne, Pa.	Germantown, Phila.	Byberry, Pa.	Frankford, Phila.	Bulk Arrival, 1920.
Pine Warbler	. . .	. . .	. . .	. . .	. . .	Apr.19	. . .	. . .	. . .	Mar.31	. . .	. . .	. . .	. . .	. . .
Yellow Palm Warbler	. . .	Apr.18	Apr.18	Apr.16	Apr.25	Apr.20	. . .	Apr.25	Apr. 3	Apr.25	. . .	Apr.18	. . .	Apr.20	Apr.18
Prairie Warbler	. . .	May 15	Apr.24	. . .	May 9	. . .	May 3	. . .	. . .	May 16	. . .	May 9	May 12	. . .	May 3
Ovenbird	May 1	Apr.30	May 2	May 6	Apr.30	Apr.24	May 4	May 9	Apr.25	May 3	. . .	May 2	Apr.26	Apr.26	Apr.30
Water Thrush	. . .	May 16	May 1	May 11	Apr.28	Apr.24	. . .	. . .	May 1	May 2	. . .	May 2	. . .	May 12	May 2
Kentucky Warbler	. . .	. . .	. . .	. . .	May 16	May 12	May 9	May 19	May 12	May 9	. . .	May 9	May 20	May 12	May 12
Maryland Yellow-throat	May 6	Apr.25	Apr.23	Apr.24	Apr.24	Apr.24	May 3	May 16	May 24	May 9	. . .	Apr.25	Apr.30	May 2	Apr.29
Chat	. . .	May 14	May 16	May 16	May 1	May 12	. . .	May 19	May 8	May 16	. . .	May 16	May 17	May 17	May 16
Canada Warbler	. . .	May 16	May 16	May 11	May 15	May 15	May 13	May 23	May 19	. . .	. . .	May 16	May 21	. . .	May 16
Redstart	May 5	May 1	May 2	May 9	May 16	May 12	May 3	Apr.30	May 2	May 9	. . .	May 6	May 5	May 12	May 5
Catbird	May 2	Apr.27	May 4	May 6	May 7	Apr.25	May 4	Apr.25	May 25	May 2	May 9	May 5	May 5	May 2	May 5
Brown Thrasher	Apr.21	Apr.24	Apr.22	Apr.16	Apr.18	Apr.25	. . .	Apr.17	Apr.18	May 2	May 5	. . .	Apr.26	Apr.28	Apr.21
House Wren	May 1	Apr.25	Apr.25	Apr.26	Apr.24	Apr.23	May 2	Apr.25	Apr.25	Apr.24	May 5	Apr.25	Apr.30	May 9	Apr.25
Long-bill'd Marsh Wren	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Ruby-crowned Kinglet	. . .	Apr.17	Apr.18	Apr.16	Apr.14	Apr.11	. . .	Apr. 5	Apr.20	. . .	. . .	Apr.18	Apr.20	Apr.22	Apr.17
Wood Thrush	May 2	May 4	May 2	May 6	Apr.25	Apr.26	May 2	Apr.27	Apr.28	Apr.29	May 4	Apr.25	May 3	May 2	Apr.30
Wilson's Thrush	. . .	May 14	May 16	May 3	May 8	May 12	May 20	. . .	May 8	. . .	. .	. .	May 5	May 6	May 8
Gray-cheeked Thrush	. . .	. . .	May 16	May 19	May 30	. . .	. . .	. . .	May 23	May 16	. . .	. . .	. . .	. . .	May 16
Olive-backed Thrush	. . .	May 22	May 11	May 16	May 26	. . .	May 22	. . .	May 12	May 9	. . .	. . .	. . .	May 12	May 11
Hermit Thrush	. . .	Apr.16	Apr.16	Apr.18	Apr.19	. . .	. . .	Apr. 3	Apr.19	Apr. 2	. . .	. . .	Apr.15	Apr.11	Apr.15
Robin	May 9	Feb.21	Mar.21	Mar.12	Feb.24	Feb. 9	Mar.13	May 13	Mar.13	Mar.11	Mar.13	Mar. 4	Mar.10	Mar.15	Mar.10
Bluebird	Mar.21	Mar.11	Mar.18	Feb.28	Jan.28	Mar.11	Mar.17	. . .	Feb.23	Feb.22	Mar.13	Mar.23	Mar.22	Mar.15	Mar.11

Has this book been Scanned? Y / N

Names.
Flicker
Whip-poor-will
Nighthawk
Chimney Swift
Hummingbird
Kingbird
Crested Flycatcher
Phoebe
Bobolink
Cowbird
Red-winged Blackbird
Baltimore Oriole
Purple Grackle
Chipping Sparrow
Chewink
Indigobird
Scarlet Tanager
Purple Martin
Barn Swallow
Red-eyed Vireo
Black-and-white Warbler
Chestnut-sided Warbler
Ovenbird
Maryland Yellowthroat
Chat
Catbird
Brown Thrasher
House Wren
Wood Thrush
Hermit Thrush
Robin
Bluebird



Names.	Cape May, N. J. E. 13; S. 72.	Atlantic City, N. J. E. 42; S. 42.	Vineland, N. J. E. 7; S. 32.	Downstown, N. J. E. 11; S. 28.	Mt. Holly, N. J. E. 19; N. 3.	Wilmington, Del. W. 26; S. 15.	Concordville, Pa. W. 20; S. 5.	West Chester, Pa. W. 24; N. 0.	Downingtown, Pa. W. 30; N. 4.	Wyncote, Pa. E. 1; N. 10.	Buckingham, Pa. E. 4; N. 26.	Forest Grove, Pa. E. 2; N. 28.	Newtown, Pa. E. 10; N. 19.	Doylestown, Pa. E. 1; N. 26.	Collegeville, Pa. W. 16; N. 18.	Greencastle, Pa. W. 132; S. 12.	Reading, Pa. W. 40; N. 16.	Lopez, Pa. W. 60; N. 103.
Flicker	Res.	Apr. 11	Res.	Mar. 25	Feb. 1	Mar. 24	Mar. 23	Mar. 15	Mar. 23	Mar. 26	Mar. 11	Mar. 30	Mar. 10	Feb. 8	Mar. 28	Apr. 2	Mar. 26	Mar. 26
Whip-poor-will	Apr. 11	.....	.....	Apr. 26	May 29	Apr. 25	Apr 30	.....	May 2	.....	May 25	.....	.....	.....	.....	.....	.....	May 8
Nighthawk	.....	.....	.....	.....	.....	May 17	May 16	.....	May 22	.....	.....	.....	.....	.....	May 20	May 21	May 7	May 26
Chimney Swift	.....	.....	Apr. 22	May 2	Apr. 14	Apr. 23	Apr. 22	Apr. 19	Apr. 24	Apr. 22	May 11	Apr. 21	Apr. 22	Apr. 20	Apr. 24	Apr. 13	Apr. 18	May 12
Hummingbird	.....	.....	May 27	.....	.....	May 16	May 16	.....	.....	Apr. 3	.....	May 4	May 23	.....	... .	.....	May 16	May 23
Kingbird	.....	.....	Apr. 23	Apr. 30	Apr. 25	May 9	May 1	May 9	May 3	.....	Apr. 29	May 3	May 5	Apr. 25	Apr. 24	May 16	Apr. 24	May 5
Crested Flycatcher	.....	.....	May 18	May 2	May 4	May 9	Apr. 30	May 3	May 9	.....	May 15	May 9	May 4	May 9	May 6	May 13	May 7	.....
Phoebe	Apr. 11	.....	Apr. 9	.....	Mar. 25	.....	Mar. 22	Mar. 17	Mar. 28	.....	Apr. 22	Feb. 20	Apr. 1	Mar. 28	Mar 28	Mar. 27	Mar. 28	Mar. 27
Bobolink	.....	.....	May 12	.....	.....	.....	May 9	May 9	.....	.....	May 11	May 1	May 6	.....	May 7	.....	.....	May 11
Cowbird	Apr. 11	.....	.....	.....	Mar. 30	.....	Mar. 23	Mar. 12	Mar. 29	.....	.....	Apr. 10	Apr. 16	Apr. 11	Apr. 30	Apr 10	Mar. 28	.....
Red-winged Blackbird	Res.	Apr. 11	Res.	Mar. 12	Mar. 10	Mar. 28	Mar. 11	Mar. 11	Mar. 22	.....	Mar. 11	Mar. 17	Mar. 11	Mar. 11	Mar. 21	Mar. 28	Mar. 28	Mar. 12
Baltimore Oriole	May 2	May 14	May 9	May 11	May 4	May 16	May 11	May 7	.....	.....	May 11	May 7	May 11	May 9	May 2	May 2	May 7	May 11
Purple Grackle	.....	.....	Res.	.....	Mar. 9	Mar. 9	Mar. 3	Feb. 20	Mar. 12	Mar. 15	Mar. 11	Mar 12	Mar. 5	Res.	Mar. 2	Mar. 15	Mar. 12	.....
Chipping Sparrow	Apr. 11	Apr. 14	Mar. 25	Mar. 31	Apr. 3	Apr. 18	Apr. 1	Mar. 29	Apr. 13	Apr. 11	Apr. 20	Apr. 22	Apr. 3	Apr. 12	Apr. 16	Mar. 27	Apr. 7	Apr. 23
Chewink	Apr. 20	Apr. 20	Apr. 21	Apr. 25	Apr. 4	Apr. 10	Apr. 23	Apr. 24	.....	May 2	.....	Apr. 18	Apr. 25	Apr. 18	Apr. 25	Apr. 10	Apr. 24	May 4
Indigobird	May 2	.....	May 9	.....	May 9	May 15	May 11	May 12	May 12	May 10	.....	May 15	May 17	.....	May 6	May 9	May 9	May 18
Scarlet Tanager	.....	May 1	.....	May 16	May 18	May 2	May 11	May 9	May 12	.....	May 16	May 7	May 17	May 23	May 15	May 9	May 15	May 7
Purple Martin	Apr. 14	.....	Apr. 13	Mar. 29	Apr. 3	Apr. 15	.....	Mar. 31	Apr. 26	.....	Apr. 26	Apr. 20	.....	Mar. 30	.....	Mar. 26	Apr. 3	.....
Barn Swallow	Apr. 25	.....	May 9	Apr. 25	Apr. 19	Apr. 12	Apr. 13	Apr. 18	Apr. 27	.....	Apr. 25	May 1	Apr. 22	Apr. 19	May 2	Apr. 21	Apr. 18	Apr. 22
Red-eyed Vireo	.....	.....	May 11	May 16	May 9	.....	May 9	May 9	May 9	.....	.....	.....	May 6	. .....	May 21	May 5	May 9	May 8
Black-and-white Warbler	.....	Apr. 30	May 15	.....	Apr. 25	Apr. 25	Apr. 23	May 1	.....	.....	.....	May 4	Apr. 30	May 1	Apr. 24	Apr. 17	Apr. 25	May 6
Chestnut-sided Warbler	.....	.....	May 11	.....	May 14	May 9	May 11	May 12	May 15	.....	.....	May 10	May 17	May 12	May 20	May 13	May 8	May 17
Ovenbird	.....	Apr. 30	May 11	May 3	May 1	Apr. 25	Apr. 30	May 2	.....	.....	May 9	May 1	May 4	May 2	Apr. 25	Apr. 24	Apr. 26	May 7
Maryland Yellowthroat	Apr. 25	.....	May 9	May 9	May 3	.....	Apr. 30	May 1	May 2	.....	.....	May 9	May 6	May 9	Apr. 24	May 7	May 7	May 18
Chat	.....	.....	May 22	May 23	May 29	.....	May 16	May 12	.....	.....	.....	May 1	May 16	.....	.....	May 23	May 16	.....
Catbird	May 1	Apr. 30	May 2	.....	Apr. 25	Apr. 10	Apr. 23	May 2	.....	May 4	May 9	May 5	May 6	May 5	May 4	Apr. 27	Apr 26	.....
Brown Thrasher	Apr. 25	Apr. 17	Apr. 28	Apr. 25	Apr. 18	Apr. 25	Apr. 18	Apr. 25	Apr. 19	.....	May 2	May 1	Apr. 26	Apr. 23	Apr. 25	May 8	Apr. 24	May 4
House Wren	May 2	.....	May 2	May 8	Apr. 25	Apr. 25	Apr. 22	Apr. 24	Apr. 25	Apr. 22	.....	May 1	Apr. 25	May 15	Apr. 25	Apr. 24	Apr. 24	May 7
Wood Thrush	.....	.....	.....	.....	May 1	May 2	May 8	May 7	.....	... ..	.....	May 5	May 5	May 6	May 7	May 15	Apr. 25	Apr. 22
Hermit Thrush	.....	.....	.....	.....	Apr. 21	.....	Apr. 8	.....	.....	.....	.....	Apr. 20	.....	Apr. 23	.....	Apr. 17	Apr. 22	Apr. 16
Robin	Res.	Mar. 15	Feb. 29	Mar. 15	Mar. 3	Mar. 23	Mar. 12	Feb. 25	May 15	Feb. 18	Mar. 11	Mar. 19	Mar. 12	Mar. 14	Mar. 2	Feb. 28	May 7	Mar. 16
Bluebird	Res.	.....	Res.	Mar. 4	Mar. 11	Mar. 12	Mar. 10	Mar. 7	May 15	.....	Mar. 18	Mar. 10	Mar. 8	Mar. 11	Mar. 2	Feb. 28	Mar. 14	Mar. 16

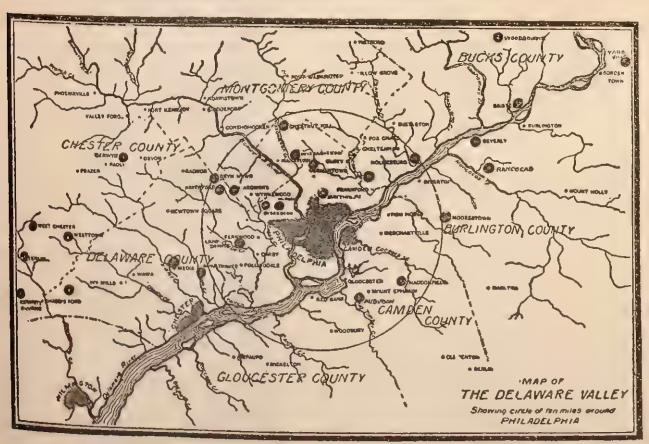


TABLE II.

SPRING MIGRATION, 1920.

EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES AT NINETEEN STATIONS OUTSIDE THE PHILADELPHIA CIRCLE.

Name	Cape May, N. J. E. 13; S. 72.	Atlantic City, N. J. E. 42; S. 42.	Vineland, N. J. E. 7; S. 32.	Downstown, N. J. E. 11; S. 28.	Mt. Holly, N. J. E. 19; N. 3.	Allentown, N. J. E. 3; N. 16.	Princeton, N. J. E. 28; N. 29.	Wilmington, Del. W. 20; S. 15.	Concordville, Pa. W. 20; S. 5.	West Chester, Pa. W. 24; N. 0.	Darling, Pa.	Penfield, Pa.	Jeffersonville, Pa. N. 12; W. 12.	Buckingham, Pa. E. 4; N. 26.	Carversville, Pa. E. 6; N. 30.	George School, Pa. E. 11; N. 18.	Newtown, Pa. N. 19; E. 10.	Collegeville, Pa. W. 16; N. 18.	Greencastle, Pa. W. 132; S. 12.	Reading, Pa. W. 40; N. 16.	Lopez, Pa. W. 60; N. 103.
Flicker	Res.	Apr. 22	Res.	Mar. 16	Jan. 1	Apr. 6	Res.	. . .	Mar. 10	Mar. 7	. . .	Feb. 23	Mar. 13	Mar. 16	Mar. 10	Mar. 4	Mar. 4	Mar. 30	Mar. 12	Mar. 16	Mar. 24
Whip-poor-will	. . .	. . .	Apr. 20	Apr. 25	May 15	. . .	Apr. 20	. . .	May 13	May 20	. . .	. . .	. . .	May 15	. . .	. . .	. . .	. . .	Apr. 25	May 25	May 12
Nighthawk	. . .	. . .	. . .	. . .	May 28	. . .	May 29	. . .	. . .	May 15	. . .	. . .	. . .	. . .	. . .	. . .	. . .	May 11	May 13	May 15	Jun. 3
Chimney Swift	Apr. 24	. . .	Apr. 28	Apr. 29	Apr. 17	Apr. 20	Apr. 17	May 9	Apr. 22	Apr. 25	Apr. 25	. . .	Apr. 27	. . .	Apr 30	Apr. 18	Apr. 24	Apr. 25	Apr. 16	Apr. 30	May 24
Hummingbird	. . .	. . .	May 7	. . .	. . .	May 4	May 9	. . .	May 18	May 8	May 8	May 10	. . .	. . .	. . .	. . .	. . .	. . .	May 15	. . .	May 27
Kingbird	May 8	. . .	May 28	Apr. 25	May 15	May 2	May 8	. . .	May 8	May 8	May 15		May 15	May 14	May 16	May 15	. . .	May 4	May 8	May 8	May 14
Crested Flycatcher	May 8	. . .	May 14	May 11	May 8	. . .	May 11		Apr. 24	May 12	May 13	May 16	May 18	May 16	May 11	May 15	. . .	May 12	May 17	May 11	. .
Phoebe	. . .	. . .	. . .	. . .	Mar. 13	. . .	Mar. 18	Mar. 18	Mar. 14	Mar. 7	Mar. 13	Mar. 17	Apr. 2	Mar. 23	Mar. 8	Mar. 18	Mar. 13	Mar. 13	Mar. 13	Res.	Mar. 26
Bobolink	. .	. .	. .	. .	. .	. .	May 11	. .	May 15	May 10	. .	. .	May 5	May 12	May 16	May 8	May 8	May 8	. . .	May 15	. . .
Cowbird	Res.	. . .	. . .	. . .	Mar. 25	Apr. 10	Mar. 13	. . .	Mar. 7	Mar. 15	Apr. 14	. .	. . .	Apr. 16	Apr. 23	.	Mar. 5	.	Mar. 10	Mar 13	. . .
Red-winged Blackbird	. . .	Mar. 21	Res.	Feb. 28	Mar. 2	. . .	Mar. 6	. . .	Mar. 6	Feb. 10	Mar. 1	Mar. 2	Mar. 1	Mar. 2	Mar. 2	Mar. 10	Mar. 2	Mar. 13	Mar. 16	Mar. 5	Mar. 6
Baltimore Oriole	. . .	May 9	May 6	.	May 9	May 7	May 12		May 13	May 8	. .	May 10	May 14	Apr. 28	Apr. 29	May 14	May 10	May 5	May 2	May 7	May 10
Purple Grackle	Res.	. . .	Jan. 5	Feb. 14	Feb 12	. .	Feb. 6	Mar. 3	Mar. 3	Feb. 5	Feb. 15	Jan. 23	Feb. 17	Feb. 9	Feb. 10	Mar. 4	Feb 10	Mar. 1	May 2	Feb. 26	. .
Chipping Sparrow	Apr. 4	. . .	Mar 14	Mar. 28	Mar. 25	Apr. 7	Mar. 27	.	Mar. 20	Mar. 27	Mar 15	Mar 30	Apr. 8	Apr. 4	Apr. 5	Apr. 5	Mar 26	Apr. 3	Mar. 26	Apr. 5	Apr. 13
Chewink	Res.	Mar. 21	Apr. 16	Apr. 2	Apr. 10	. . .	Apr. 3	Apr. 19	Apr. 4	Apr. 10	Apr. 22	Apr. 20	Apr. 23	May 8	Apr. 18	May 10	May 1	. . .	Apr. 10	Apr. 24	Apr. 21
Indigobird	. .	. .	May 29	. . .	May 15	. . .	May 14	. .	May 13	May 14	May 14	May 16	May 14	May 14	May 8	. . .	. . .	May 13	May 8	May 15	May 16
Scarlet Tanager	. . .	. . .	. . .	May 12	May 13	. . .	May 10	May 13	May 11	May 10	May 14	May 16	May 21	.	May 14	. . .	. .	May 13	May 22	May 15	May 15
Purple Martin	Apr. 17	. . .	Apr. 8	Apr. 2	Apr. 9	. .	Apr. 24	. .	Apr. 22	Apr. 16	Apr 17	. . .	Apr. 8	May 2	Apr. 19	. .	May 10	.	Mar. 8	Apr. 10	.
Barn Swallow	Apr. 9	May 2	Apr. 15	May 12	Apr. 13	. .	Apr. 17		Apr. 24	Apr. 23		Apr. 12	Apr. 21	Apr. 17	Apr. 18	May 3	Apr. 23	Apr. 21	May 2	Apr. 16	Apr. 24
Red-eyed Vireo	. .	. . .	May 12	May 15	May 7	. .	May 10	May 14	May 13	May 12	May 4	. . .	May 21	May 16	May 6	May 15		May 13	May 20	May 13	May 7
Black and White Warbler	May 8	May 2	May 10	May 15	Apr. 24	. .	Apr. 24	May 3	May 13	May 2	. .	May 11	Apr. 25	. .	May 8	May 15	May 10	. .	May 12	May 1	Apr. 26
Chestnut-sided Warbler	. .	. .	. . .	. .	May 15	. .	May 3	May 12	May 15	May 9	. .	. .	. .	. .	May 3	. .	. .	. .	.	May 13	May 7
Ovenbird	May 8	Apr. 30	. . .	May 2	Apr. 26	. .	Apr. 26	May 8	Apr. 18	Apr. 26	May 12	Apr. 30	Apr. 30	May 8	Apr. 25	Apr. 26	Apr. 30	. . .	Apr. 22	May 6	May 10
Maryland Yellow-throat	Apr. 20	Apr. 30	May 11	May 1	Apr. 17	. . .	Apr. 16	May 12	Apr. 22	Apr. 25	Apr. 29	May 11	May 5	. . .	May 6	Apr. 28	Apr. 26	. . .	May 2	May 7	Apr. 27
Chat	. . .	. . .	May 28	May 29	May 15	. .	May 15			May 15	May 17	May 27	. . .	. . .	. . .	. . .	. . .	. . .	May 17	May 18	. .
Catbird	Apr. 16	May 8	.	May 8	Apr. 28	. . .	Apr. 26	Apr. 12	Apr. 24	Apr. 25	May 10	Apr. 28	Apr. 30	Apr. 17	May 7	May 8	May 8	May 5	Apr. 27	Apr. 30	May 15
Brown Thrasher	Apr. 16	Apr. 22	Apr. 10	Apr. 20	Apr. 22	. . .	Apr. 16	. .	Apr. 13	Apr. 14	Apr. 15	Apr. 20	Apr. 25	Apr 17	May 6	. . .	Apr. 21	May 2	Apr. 13	Apr. 10	Apr 25
House Wren	May 8	May 2	Apr. 28	Apr. 25	Apr. 17	. . .	Apr. 22	. .	Apr. 17	Apr. 15	Apr. 22	Apr. 18	Apr. 22	Apr. 22	Apr. 28	May 3	Apr. 28	Apr. 25	Apr. 17	Apr. 24	Apr. 27
Wood Thrush	May 8	May 14	May 14	May 22	May 1	. . .	May 1	Apr. 28	May 13	May 13	May 13	. . .	May 3	May 13	May 6	May 3	Apr. 29	May 4	.	May 1	Apr. 23
Hermit Thrush	. . .	. .	. . .	. .	Jan. 16	. . .	Apr. 14	Apr. 9	Apr. 10		Apr. 10	. . .	Apr. 15	.	May 3	. . .	. . .	. . .	Apr. 17	Apr. 9	Apr. 13
Robin	Res.	Mar. 21	Res.	Feb. 5	Jan. 4	Feb. 10	Res.	Mar. 6	Mar. 3	Mar. 1	Feb. 17	Mar. 2	Feb. 21	Mar. 2	Mar. 2	Mar. 6	Mar. 2	Mar. 1	Mar. 1	Mar. 5	Mar. 7
Bluebird	Res.	. . .	Res.	Feb. 14	Mar. 6	Feb. 20	Res.	. . .	Mar. 3	Feb. 14	. . .	Feb. 4	Mar. 21	Mar. 2	Mar. 1	Feb. 1	Mar. 4	Mar. 1	Feb. 16	Res.	Mar. 8

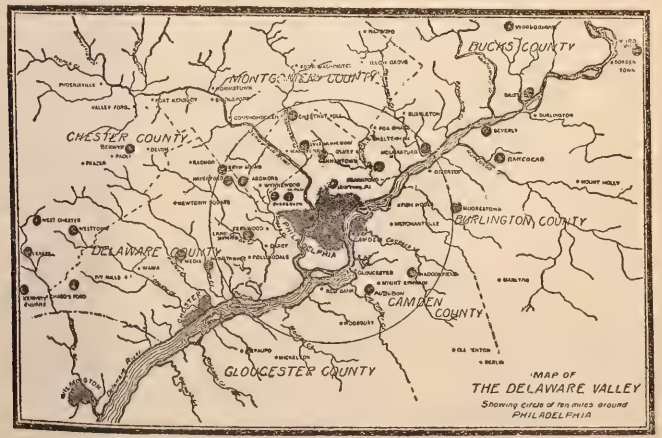


TABLE II.

SPRING MIGRATION, 1921.

EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES AT NINETEEN STATIONS OUTSIDE THE PHILADELPHIA CIRCLE.

Loon, *Gavia immer.* Swarthmore, May 15 (Howard).*

Horned Grebe, *Colymbus auritus.* Falls of Schuylkill, January 1 (Miller); Reading, November 2, 1919, April 23 (12), and May 1 (5) (Poole).

Pied-billed Grebe, *Podilymbus podiceps.* Media, April 25–May 9 (Allen); Reading, November 2, 1919 (Poole).

Double-crested Cormorant, *Phalacrocorax d. dilophus.* Cape May, N. J., April 15 (Hand).

Herring Gull, *Larus argentatus.* Beach Haven, N. J., June 12–13 (many) (Miller); Mt. Holly, N. J., April 2 (Pumyea).

Laughing Gull, *Larus atricilla.* Atlantic City, N. J., May 8 (Cromie); Cape May, N. J. April 15 (Hand).

Black Tern, *Chlidonias nigra surinamensis.* Reading, September 6, 1919 (Poole).

Merganser, *Mergus americanus.* Beach Haven, N. J., June 10 (Miller); Ridley Creek, Moylan, March 24 (Howard); Newtown, April 30 (Packer); Neshaminy Creek, Doylestown, March 21 (10), March 28 (13) (MacReynolds); Reading, December 26, 1919 (8) March 14 (3) (Poole).

Red-breasted Merganser, *Mergus serrator.* Beach Haven, N. J., June 13 (Miller).

Hooded Merganser, *Lophodytes cucullatus.* Concordville, March 17 (2) (Styer).

Mallard, *Anas platyrhynchos.* (Gloucester, N. J., April 28 5) (Miller).

Black Duck, *Anas rubripes tristis.* Doylestown, March 28 (MacReynolds) (4).

Pintail, *Dafila acuta.* Haddonfield, N. J., April 11 (Tatum).

Shoveller, *Spatula clypeata.* Greencastle, two shot, April 10 (Ziegler).

Red-head, *Marila americana.* Cape May, N. J., December 20–23, 1919, a number shot (Hand).

Scaup, *Marila marila.* Concordville, May 4 (2) (Styer); Reading, March 20 (Poole). Cape May, N. J. December 20–23, 1919, a number taken (Hand).

Golden-eye, *Glancionetta clangula americana.* Reading, November 15 (4) (Poole).

Bufflehead, *Charitonetta albeola.* Reading, February 14 and May 1 (Poole).

* Localities in Pennsylvania and dates in 1920, unless otherwise indicated.

Wood Duck, *Aix sponsa.* Salem, N. J., May 16, nest and 8 eggs ready to hatch (Miller); West Chester, April 4 (Sharples).

Whistling Swan, *Olor columbianus.* Cape May, N. J., November 6–8, 1919 a flight (Hand).

Great Blue Heron, *Ardea h. herodias.* Haddonfield, N. J., May 12 (Tatum); Moorestown, N. J., March 22 (Mickle); Mt. Holly. N. J., February 18 (Pumyea); Rancocas, N. J., May 2 (Stokes); Wissahickon Creek, April 21 (Barker); Byberry, April 9 (Richardson); Haverford, May 9 (Serrill); West Chester, April 3 (Sharples); Newtown, May 6 (Packer); Doylestown, April 29 (MacReynolds); Reading, April 24 (Poole).

Egret, *Casmerodius egretta.* Cape May, N. J., August and September, 1919 and Fishing Creek, N. J., April 15–20 (Hand).

Black-crowned Night Heron, *Nycticorax n. naevius.* Cape May, N. J., one in the heart of town, December 23, 1919, first in spring, April 5 (Hand).

Bittern, *Botaurus lentiginosus.* Moorestown, N. J., May 2 (Mickle); Haverford, May 2 (Serrill); Reading, May 1 and 9 (Poole); Cape May, N. J. April 15 (Hand).

Little Black Rail, *Creciscus jamaicensis.* Stone Harbor, N. J., one seen May 31 and June 21 (Miller).

Woodcock, *Philohela minor.* Mt. Holly, N. J., April 12 (Pumyea); Frankford, March 17 (Miller); Media, March 21 (Moore); Ardmore, March 22 (Baily); Cape May, N. J., November 6, 1919, about 1000 killed, a large flight, another flight December 3 (Hand). In spring, April 11 and nest and eggs, April 25 (Hand).

Wilson's Snipe, *Gallinago delicata.* Doylestown, February 29–April 14 (one) (MacReynolds); Reading, September 27, 1919 (Poole); Downingtown, February 15, after very cold spell five in company with a Killdeer (Baily); West Chester, March 17 (Sharples); Frankford Phila., May 11 (Miller); Cape May, N. J., a flight, December 3, 1919, first in spring March 24 (Hand).

Greater Yellowlegs, *Totanus melanoleucus.* Haddonfield, N. J., April 22 (Tatum); Gloucester, N. J., April 19 (3) (Miller);

Reading, October 29 and November 2 (Poole); Atlantic City, N. J., May 16 (Cromie); Cape May, N. J., April 5 (Hand).

Hudsonian Curlew, *Numenius hudsonicus.* Cape May, N. J., April 25 (Hand).

Semipalmated Sandpiper, *Ereunetes pusillus.* Atlantic City, N. J., May 16 (Cromie).

Least Sandpiper, *Pisobia minutilla.* Atlantic City, N. J., May 16 (Cromie); Cape May, N. J., May 1 (Hand).

Upland Plover, *Bartramia longicauda.* Fort Washington, April 6 and rather frequent April to June in Gwynedd and Worcester twps., nestling several days old at Belfry May 29 (Miller); Forest Grove, April 18 (Bewley); Newtown, April 20 (Packer); Doylestown, April 18 (2) (MacReynolds); Greencastle, April 24 (Ziegler).

Red-backed Sandpiper, *Pelidna alpina pacifica.* Cape May, N. J., May 9 (Hand).

Knot, *Canutus canutus.* Cape May, N. J., May 9 (Hand).

Turnstone, *Arenaria interpres.* Cape May, N. J., May 1 (Hand).

Killdeer, *Oxyechus vociferus.* Buckshutem, N. J., March 31, nest and eggs (Prince): Belfry, December 23 and 24 (Miller); Downingtown, two all winter, 1919–20, seen several times December to February (Baily).

Semipalmated Plover, *Charadrius semipalmatus.* Atlantic City, N. J., May 16 (Cromie).

Mourning Dove, *Zenaidura macroura carolinensis.* Rancocas, N. J., February 2 (Stokes).

Ruffed Grouse, *Bonasa umbellus umbellus.* Cedar Grove, N. J., April 23 (Howard); Reading, November 23 (Poole).

Bobwhite, *Colinus virginianus virginianus.* Crum Creek, May 16 (Serrill).

Ring-necked Pheasant, *Phasianus colchicus.* Buckshutem, N. J., May 21, nest and 14 eggs (Prince); Darling, April 11 (Daley); Ardmore, December 21, 1919 (Baily); Concordville, February 25, driven into barnyard by snow (Styer).

Marsh Hawk, *Circus hudsonius.* Tinicum, January 13 (3) (Miller); Concordville, February 21 (Howard).

Rough-legged Hawk, *Archibuteo l. sancti-johannis.* Camden,

N. J., January 30 (Miller); Ardmore, November 11–December 21, 1919 (Baily); Sharon Hill, January 13 (Baily); Reading, March 8 (Poole).

Broad-winged Hawk, *Buteo platypterus.* Downstown, N. J., May 30, nest and two eggs (Fair); Moorestown, N. J., April 30, May 5 and 15 (Linton and Mickle); Frankford, April 7 (Miller); Concordville, May 27 (Styer); Doylestown, February 29 and March 14 (MacReynolds); Reading, April 24 (Poole).

Duck Hawk, *Falco peregrinus anatum.* Bridesburg, January 19, February 11–24 (Miller).

Pigeon Hawk, *Falco columbarius.* Doylestown, April 6, 11, 15, 25, one bird (MacReynolds).

Bald Eagle, *Haliæetus l. leucocephalus.* Reading, May 7 (Poole).

Osprey, *Pandion h. carolinensis.* Concordville, April 3 (Styer).

Screech Owl, *Otus asio asio.* Vineland, N. J., June 10, six young hatched in a bird box (Prince).

Long-eared Owl, *Asio wilsonianus.* Reading, November 9–23 (Poole).

Saw-whet Owl, *Cryptoglaux acadica.* Reading, November 23–January 30 (Poole).

Barn Owl, *Tyto pratincola.* Newtown, January 4 (Packer); Reading, November 7 (Poole).

Yellow-billed Cuckoo, *Coccyzus a. americanus.* Frankford, October 13 (Miller).

Belted Kingfisher, *Ceryle a. alcyon.* Camden, N. J., January 30 (Miller); Belfry, January 9 (Miller); Doylestown, two wintered on Neshaminy Creek (MacReynolds).

Flicker, *Colaptes auratus luteus.* Belfry, January 7–12 (Miller).

Downy Woodpecker, *Dryobates pubescens medius.* Ardmore, digging a hole in tree, December 21, 1919 (Baily).

Red-headed Woodpecker, *Melanerpes erythrocephalus.* Mays Landing, N. J., April 11 (Miller); Doylestown, May 15 (MacReynolds).

Whip-poor-will, *Antrostomus v. vociferus.* Calling in the heart of Moorestown, N. J., April 23, (Wierman).

Nighthawk, *Chordeiles v. virginianus.* Moorestown, N. J. August 27–October 5 (Mickle).

Chimney Swift, *Chaetura pelagica.* Moorestown, September 25, 1919 (Mickle).

Yellow-bellied Flycatcher, *Empidonax flaviventris.* Reading, May 22, one shot (Poole).

Olive-sided Flycatcher, *Nuttallornis borealis.* On Brandywine Creek near Downingtown May 12 (Baily); Haverford, May 2 (Serrill).

Horned Lark, *Octocoris a. alpestris.* Richmond, Phila., February 17 (45) (Miller); Downingtown, December 31, 1919 (Baily); West Chester, January 17 (Sharples); Concordville, December 20–February 25, abundant (Styer); Reading, February 8–March 28 (Poole).

Bobolink, *Dolichonyx oryzivorus.* Reading, September 6 (Poole).

Rusty Blackbird, *Euphagus carolinus.* Ardmore, December 7, 1919 (Baily); Doylestown, March 21–31 (several) (MacReynolds).

Red-winged Blackbird, *Agelaius p. phoeniceus.* Cape May, N. J., over 2000, November 21 (Hand).

Purple Finch, *Carpodacus p. purpureus.* Vineland, N. J., November 20–January 10 (Prince); Moorestown, N. J., May 5–15 (Mickle); Mt. Holly, May 9 (Pumyea); Frankford, Phila., October 2 (Miller); Byberry, May 11 (Richardson); Swarthmore, May 15 (Howard); Darling, May 14 (Daley); West Chester, May 15 (Sharples); Doylestown, April 23–28 (MacReynolds).

Red Crossbill, *Loxia curvirostra minor.* Mt. Holly, N. J., November 2–February 1 (Pumyea); Rancocas, N. J., February 28 (Stokes); Swarthmore, March 26 and April 30 (Palmer); West Chester, May 5 (Sharples), and May 21 (Roberts).

White-winged Crossbill, *Loxia leucoptera,* Reading, January 25 (Poole).

Goldfinch, *Astragalinus t. tristis.* Very abundant as follows: Rancocas, N. J., May 22 (Stokes); Allentown, N. J., May 9 (Gordon); Addingham, April 22 (Culver); West Chester, May 13 (Sharples).

Pine Siskin, *Spinus pinus.* Vineland, N. J., March 3 and April 2 (Prince); Moorestown, N. J., April 26 (Mickle); Swarthmore, May 16 (Palmer); Haverford, November 23, 1919, Ardmore, February 7 and Darby Creek, February 23 (Baily); West Chester, October 18, 1919 to May 6 (Roberts); Concordville, February to March 15 (Styer); Greencastle, February 28 (Ziegler); Reading, January 11 (45), January 18 (22), April 26 (15) (Poole).

Redpoll, *Acanthis linaria linaria.* Frankford, February 11 (Miller); Concordville, flocks throughout February to March 23 (Styer); Doylestown, March 14 (6) feeding on Alders (MacReynolds); Greencastle, February 28 (Ziegler); Reading, February 8 (12), March 1 (40), March 14 (4) (Poole).

Snow Bunting, *Plectrophenax n. nivalis.* Seaside Park, February 12 (Pumyea).

Evening Grosbeak, *Hesperiphona v. vespertina.* Vineland, N. J., February 21–May 7 a flock of from 6 to 40 feeding on cedar berries, under cherry trees and on maple buds also reported at Millville, N. J., the last of February (Prince); Moorestown, N. J., April 16–23, 26 in one flock April 17, four males seen (Wireman); Mt. Holly, N. J., April 21, 2 males and 2 females (Pumyea); Addingham, March 7 (6) (Culver); Bryn Mawr, March 23 (4) (Tuttle); Concordville, February 12 (5) (Styer); Reading, December 26, 1919, March 7 (2), March 14 (1) (Poole); Lopez, May 24 (Behr).

Tree Sparrow, *Spizella m. monticola.* Mt. Holly, N. J., November 16–March 28 (Pumyea); Darling, March 21 (Daly); West Chester, December 8–March 21 (Roberts); Concordville, March 23 (Styer); Downingtown, December 2–April 13 (Kelly); Doylestown, November 9–14 (MacReynolds); Reading, November 23–March 30 (Poole).

Lincoln's Sparrow, *Melospiza l. lincolni.* Birdsboro, May 15 (Poole).

White-throated Sparrow, *Zonotrichia albicollis.* Vineland, N. J., November 6–May 17 (Prince); Moorestown, N. J., September 24–May 18 (Wireman); Mt. Holly, N. J., September 19–May 9 (Pumyea); Frankford, September 18 (Miller); Byberry, April 30 (Richardson); Swarthmore, May 15 (Howard); Dar-

ling, October 15–May 16 (Daly); West Chester, arrived April 22 (Roberts); Concordville, April 18–May 17 (Styer); West Philadelphia, April 14–May 15 (Kelly); Doylestown, April 25 (MacReynolds); Reading, April 22 (Poole).

White-crowned Sparrow, *Zonotrichia leucophrys.* Haddonfield, N. J., May 11 (Tatum); remaining for a week within a hundred yards of the same spot; Moorestown, N. J., May 10 (Mickle); Darling, May 5 and 16 (Daly); Oaks, May 9 (Bailey); West Chester, May 13, a pair (Roberts); Concordville, May 2–16 (Styer): Reading, May 15 (10), 16 (6) (Poole).

Junco, *Junco h. hyemalis.* Downstown, N. J., October 19–April 21 (Fair); Vineland, N. J., November 14–April 10 (Prince); Moorestown, N. J., October 11 (Mickle); Mt. Holly, N. J., September 27–April 21 (Pumyea); Frankford, September 16 (Miller); Byberry, April 21 (Richardson); Darling, October 10–April 15 (Daly); Roslyn, to May 3 (Griscom); West Chester, October 13–April 19 (Roberts); Concordville, to May 2 (Styer); Downingtown, September 27–April 29 (Kelly), Doylestown, September 28–May 2 (MacReynolds); Reading, October 9–May 8 (Poole); Greencastle, to April 20 (Ziegler); Wilmington, Del., November 30–April 25 (Jenness).

Scarlet Tanager, *Piranga erythromelas.* Westtown, an orange-colored male, May 15 (Roberts).

Purple Martin, *Progne s. subis.* Moorestown, N. J., September 10, 1919 (Mickle).

Tree Swallow, *Iridoprocne bicolor.* Cape May, N. J., large flocks, November 10–December 15 (Hand).

Cedar Waxwing, *Bombycilla cedrorum.* Vineland, N. J., December 18 (8) 1919, and March 1 (Prince).

Migrant Shrike, *Lanius l. migrans.* Bromall, September, 1919 (Allen); West Chester, April 6, 1919 (Roberts) in song.

Northern Shrike, *Lanius borealis.* December 27, 1919, Cape May, N. J. (Hand).

Red-eyed Vireo, *Vireosylva olivacea.* Vineland, September 14 (Prince).

Prothonotary Warbler, *Protonotaria citrea.* Mt. Holly, N. J., April 25 (Pumyea). Carefully watched at close quarters and identified by several observers [W. S.].

Golden-winged Warbler, *Vermivora chrysoptera.* Moorestown, N. J., May 14 (Linton and Mickle); Lansdowne, May 16 (Carter); Roslyn, May 11 (Griscom); Concordville, May 16 (Styer); Reading, May 9 (Poole).

Tennessee Warbler, *Vermivora peregrina.* Moorestown, N. J., May 22 (Wireman); Lansdowne, May 21 (Carter); Swarthmore, May 16 (Palmer); West Chester, May 11 (Sharples), May 12 (Roberts); Concordville, May 23 (Styer); Doylestown, May 16 (MacReynolds).

Nashville Warbler, *Vermivora r. ruficapilla.* Haddonfield, N. J., May 23 (Tatum); Moorestown, N. J., May 4 a pair (Wierman); May 15 (Linton); Mt. Holly, N. J., May 9 (Pumyea); Lansdowne, May 6 (Carter); Swarthmore, May 9 (2) (Palmer); Merion, May 2 (Beatty); Haverford, May 9 (Serrill); Roslyn, May 11 (Griscom); West Chester, May 11 (Sharples); Newtown, May 16 (Packer); Reading, April 29 and May 9 (Poole).

Myrtle Warbler, *Dendroica coronata.* Downstown, N. J., May 16 abundant (Fair).

Cape May Warbler, *Dendroica striata.* Haddonfield, N. J., May 11 (Tatum); Moorestown, N. J., May 10 abundant (Wierman), and May 14 (Mickle and Linton); Media, May 14 (Allen); Swarthmore, May 13–14 (Palmer); Merion, May 15 (Beatty); Ardmore, May 12 (Baily); West Chester, May 16 (Sharples); Concordville, May 11–22 (Styer); Birdsboro, May 15 collected (Poole).

Bay-breasted Warbler, *Dendroica castanea.* Haddonfield, N. J., May 11 (Tatum); Moorestown, N. J., May 22 (Wireman); Addingham, May 23 (Culver); Lansdowne, May 23 (Carter); Haverford, May 23 (Baily); Concordville, May 23 (Styer); Birdsboro, May 15 and 22 latter collected (Poole); Fairmount Park, May 26 (Clair).

Pine Warbler, *Dendroica vigorsi.* Vineland, N. J., October 4 (Prince).

Mourning Warbler, *Oporornis philadelphia.* Moorestown, N. J., May 25 (Mickle); Swarthmore, May 29 (Palmer).

Water-Thrush, *Seiurus n. noveboracensis.* Vineland, N. J., September 5, 1919 (Prince).

Louisiana Water-Thrush, *Seiurus motacilla.* Reading, April 25 (Poole).

Hooded Warbler, *Wilsonia citrina.* Moorestown, N. J., May 16 (Mickle and Linton); New Lisbon, N. J., May 9 (Pumyea); Darling, May 4 (2) (Daly); Atlantic City, N. J., May 1 (Cromie); Cape May, N. J., April 25 (Hand).

Wilson's Warbler, *Wilsonia p. pusilla.* Haddonfield, N. J., May 16 (Tatum); Swarthmore, May 15 (Howard); Ardmore, May 16–23 (4) (Baily); Haverford, May 22–23 (Serrill); Reading, May 22 (Poole).

Redstart, *Setophaga ruticilla.* Vineland, N. J., May 1–17, breeds at Buckshutem (Prince).

Pipit, *Anthus rubescens.* Pennsgrove, N. J., April 18 (5) (Miller); Concordville, last May 9 (Styer); Newtown, March 30, May 6 (Packer); Doylestown, May 2 (10), May 9 (7) (MacReynolds); Reading, March 30 (50) and April 24 (6) (Poole).

Mockingbird, *Mimus p. polyglottos.* Downstown, N. J., May 21–June 1, began to sing in the evening about 10 o'clock and kept it up for a long time (Fair); Concordville, November 7 (Styer); George School, one remained all winter 1919–20.

Carolina Wren, *Thryothorus ludovicianus ludovicianus.* Concordville, one all winter, the first for several years (Styer); Cape May, N. J., December 28, 1919 (Hand).

Winter Wren, *Nannus h. hiemalis.* Haddonfield, N. J., April 11 (Tatum); Moorestown, N. J., November 19 (Mickle); Mt. Holly, N. J., October 7–January 6 (Pumyea); Frankford, September 15–May 5 (Miller); Merion, April 22 (Beatty); Forest Grove, April 10 (Bewley); Reading, November 1 and May 2 (Poole).

Brown Creeper, *Certhia familiaris fusca.* Vineland, N. J., October 19 (Prince); Moorestown, N. J., Nov. 16, 1919 (Mickle); Frankford, October 13 (Miller); Byberry, April 5 (Richardson); Ardmore, March 11 (Baily); West Chester, October 13, 1919 (Roberts); April 10 (Sharples); Downingtown, April 15–May 1 (Kelly); Doylestown, October 8–April 28 (MacReynolds); Reading, November 1–April 15 (Poole).

Red-breasted Nuthatch, *Sitta c. canadensis.* Moorestown, N. J., May 15 (Linton and Mickle); Greencastle, March 8 (Ziegler).

Brown-headed Chickadee, *Penthestes hudsonicus subsp.* Media and vicinity, January 20, 1918 (Helen A. Walker). Careful observation at close quarters and identified beyond question [W. S.].

Black-capped Chickadee, *Penthestes a. atricapillus.* Mt. Holly, N. J., November 23, 1919 (Pumyea); Ardmore, February 23 (Baily); Doylestown, November 8–March 24 (MacReynolds).

Tufted Titmouse, *Baeolophus bicolor.* Resident in one locality near Reading (Poole).

Golden-crowned Kinglet, *Regulus s. satrapa.* Haddonfield, N. J., April 11 (Tatum); Moorestown, N. J., October 7–December 25, 1919, scarce in winter (Mickle); Mt. Holly, N. J., October 8–April 11 (Pumyea); Frankford, October 13 (Miller); Byberry, April 12 (Richardson); Ardmore, April 3 (Baily); none wintered. West Chester, March 21 (Roberts); Downingtown, April 15–May 6 (Kelly); Reading, November 1 –April 18 (Poole).

Blue-gray Gnatcatcher, *Polioptila c. caerulea.* Moorestown, N. J., April 11 and in the same place April 18 (Mickle); Mt. Holly, N. J., April 25 (Pumyea); Addingham, May 23 (Culver); Swarthmore, April 17 (Howard); Media, April 25 (Allen); Roslyn, April 23–26 (Griscom); Collegeville, May 2 (Kline); Cape May, N. J., May 2 (Hand).

Robin, *Planesticus m. migratorius.* Merion, eggs on April 24 (Beatty); Doylestown, wintered in upper Bucks County (MacReynolds).

Report on the Spring Migration–1921

COMPILED BY WITMER STONE

Observers returning schedules

New Jersey

Cape May, H. W. Hand.
Atlantic City, Mrs. N. S. Cromie.
Vineland, Mrs. A. K. Prince.
Downstown, W. W. Fair.
Mt. Holly, N. D. W. Pumyea.
Moorestown, Miss A. A. Mickle, M. A. Linton, Mrs. V. Wierman.
Allentown, Miss Emma Gordon.
Princeton, C. H. Rogers.

Pennsylvania

Concordville, Miss E. P. and J. F. Styer.
Media, Miss L. G. Allen.
Swarthmore, Samuel C. Palmer, P. E. Howard.
Addingham, D. E. Culver.
Lansdowne, J. D. Carter.
Penfield, Del. Co., Miss M. Cornelius.
Fairmount Park, Phila., Miss C. J. Clair.
Wayne, C. E. Alexander.
West Chester, R. P. Sharples.
West Chester, I. G. Roberts.
West Chester, Mrs. H. P. Brinton.
Darling P. O., Miss M. W. Daley.
Carversville, Miss E. C. Cox.
Jeffersonville, R. J. Middleton.
Doylestown, G. MacReynolds.
Byberry, Miss Francis Richardson.
Merion, G. H. Beatty, Jr.
Frankford, R. F. Miller.
Mt. Airy, R. W. Barker.
Ardmore, W. L. Baily.
Haverford, W. J. Serrill. Samuel Scoville, Jr.
Buckingham, Miss E. D. Broadhurst.
George School, Miss Grace L. Thwing.
Newtown, J. E. Packer.
Collegeville, W. A. Kline.
Greencastle, G. F. Ziegler, Jr.
Reading, E. L. Poole.
Lopez, Otto Behr.

Delaware

Wilmington, Mrs. H. W. Fox.

Name	Moorestown, N. J. N. 1; E. 12.	Media, Pa. S. 2; W. 12.	Swarthmore, Pa. S. 3; W. 10.	Lansdowne, Pa. S. 1; W. 6.	Addingham, Pa. S. 1; W. 8.	Ardmore and Haverford, Pa. N. 4; W. 8.	Merion, Pa. N. 3; W. 4.	Wayne, Pa. N. 6; W. 11.	Byberry, Pa. N. 14; E. 5.	Germantown, Phila. N. 6; W. 1.	Fairmount Park, Phila. N. 0; W. 2.	Frankford, Phila. N. 5; E. 5.	Bulk Arrival, 1921.
Canada Goose	. . .	. . .	Mar. 9	. . .	. . .	. . .	. . .	. . .	. . .	Mar. 16	. . .	. . .	. . .
Green Heron	. . .	May 8	May 7	. . .	. . .	Apr. 16	. . .	May 7	. . .	Apr. 30	May 2	Apr. 29	Apr. 29
Night Heron	Apr. 24	. . .	May 22	. . .	. . .	Apr. 17	May 6	. .	. . .	Mar. 10	. . .	Apr. 18	Apr. 17
Spotted Sandpiper	May 8	. . .	May 14	. . .	May 9	May 3	. . .	. . .	Apr. 28	May 7	Apr. 28	Apr. 26	Apr. 28
Solitary Sandpiper	. . .	. . .	. . .	. . .	May 12	May 15	. . .	. . .	. . .	May 15	May 13	May 6	May 7
Killdeer	Mar. 3	. . .	Mar. 6	. . .	. . .	Mar. 6	. . .	. . .	Mar. 1	Mar. 12	. . .	Mar. 22	Mar. 3
Dove	Feb. 17	. . .	Mar. 13	Mar. 9	Mar. 4	Mar. 6	Mar. 6	Mar. 6	Mar. 19	Feb. 23	. . .	Mar. 14	Mar. 6
Osprey	Apr. 11	. . .	Apr. 21	. . .	. . .	May 1	. . .	. . .	. . .	Apr. 23	. . .	. . .	. . .
Turkey Vulture	Mar. 11	. . .	Feb. 15	. . .	Apr. 24	Mar. 13	. . .	. . .	Mar. 19	Mar. 20	May 8	Mar. 2	Mar. 11
Yellow-billed Cuckoo	May 7	. . .	June 2	. . .	May 13	May 13	. . .	. . .	. . .	May 20	May 19	May 14	May 13
Black-billed Cuckoo	. . .	. . .	May 16	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Kingfisher	May 8	. . .	Apr. 23	. . .	Mar. 4	Mar. 26	. . .	Mar. 19	Mar. 28	Apr. 6	Apr. 13	Apr. 11	Mar. 26
Yellow-bellied Sapsucker	Mar. 25	. . .	Mar. 9	. . .	. . .	Mar. 13	. . .	. . .	. . .	May	. . .	. . .	. . .
Red-headed Woodpecker	. . .	. . .	May 7	. . .	. . .	May 9	. . .	. . .	. . .	May 18	. . .	May 7	May 9
Flicker	Mar. 13	Mar. 15	Mar. 7	Feb. 26	Mar. 12	Mar. 11	Mar. 6	Mar. 20	Feb. 27	Jan. 23	Apr. 11	Mar. 14	Mar. 7
Whip-poor-will	May 13	. . .	May 10	. . .	. . .	. . .	. . .	May 9	. . .	. . .	. . .	. . .	. . .
Nighthawk	. . .	. . .	May 15	. . .	May 26	May 23	. . .	. . .	. . .	May 15	. . .	May 20	May 20
Chimney Swift	Apr. 24	Apr. 30	Apr. 25	May 8	Apr. 28	Apr. 24	Apr. 28	. . .	. . .	Apr. 30	Apr. 27	Apr. 27	Apr. 25
Hummingbird	May 7	. . .	. . .	. . .	. . .	May 28	. . .	. . .	. . .	May 14	. . .	May 24	May 8
Kingbird	May 8	May 8	Apr. 29	. . .	. . .	May 8	May 6	. . .	May 1	May 7	. . .	May 8	May 7
Crested Flycatcher	May 15	May 15	May 11	May 9	May 17	May 14	May 4	. . .	May 1	. . .	May 16	May 12	May 12
Phoebe	Mar. 15	Apr. 10	Mar. 26	Mar. 16	Mar. 9	Mar. 12	Apr. 10	Mar. 12	Mar. 14	Mar. 7	. . .	Mar. 22	Mar. 14

Name	Moorestown, N. J.	Media, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Addingham, Pa.	Ardmore and Haverford, Pa.	Merion, Pa.	Wayne, Pa.	Byberry, Pa.	Germantown, Phila.	Fairmount Park, Phila.	Frankford, Phila.	Bulk Arrival, 1921.
Wood Pewee	May 19	. . .	May 16	. . .	May 21	May 14	May 1	. . .	. . .	May 14	May 27	May 17	May 15
Acadian Flycatcher	.	. . .	. . .	. . .	. . .	May 22	. . .	. . .	. . .	May 20	. . .	. . .	. . .
Least Flycatcher	May 6	. . .	May 15	. . .	. . .	May 12	. . .	. . .	. . .	. . .	May 9	Apr. 26	May 6
Bobolink	May 11	. . .	May 14	May 13	. . .	May 15	. . .	. . .	. . .	. . .	. . .	Apr. 29	May 11
Cowbird	. . .	Mar. 26	May 14	Mar. 21	May 4	Mar. 12	Mar. 27	. . .	. . .	Mar. 27	. . .	Mar. 3	Mar. 25
Red-winged Blackbird	Mar. 11	Apr. 10	Mar. 7	Mar. 9	Mar. 2	Mar. 12	Mar. 5	. . .	Mar. 3	Mar. 12	. . .	Mar. 7	Mar. 3
Meadow Lark	. . .	. . .	Feb. 17	Mar. 6	. . .	Feb. 13	Mar. 6	Mar. 12	Jan. 13	Mar. 11	. . .	Mar. 8	Mar. 6
Orchard Oriole	May 15	. . .	May 14	. . .	. . .	May 13	May 10	. . .	. . .	. . .	. . .	May 13	May 13
Baltimore Oriole	May 9	May 11	May 3	May 7	May 1	May 3	Apr. 27	May 16	. . .	May 11	. . .	May 3	May 7
Rusty Blackbird	May 8	. . .	. . .	. . .	. . .	Mar. 6	. . .	. . .	. . .	Apr. 6	. . .	. . .	. . .
Purple Grackle	Feb. 2	Mar. 2	Mar. 2	Mar. 2	Mar. 1	Feb. 13	Feb. 28	Mar. 5	Mar. 1	Feb. 17	. . .	Mar. 6	Feb. 15
Vesper Sparrow	Mar. 25	Mar. 25	Apr. 29	Mar. 25	. . .	Mar. 25	Mar. 27	. . .	Mar. 20	Mar. 24	. . .	Apr. 5	Mar. 25
Savanna Sparrow	. . .	. . .	. . .	. . .	. . .	Mar. 25	. . .	. . .	. . .	. . .	. . .	Apr. 11	. . .
Grasshopper Sparrow	Apr. 28	. . .	May 7	. . .	. . .	Apr. 17	. . .	. . .	. . .	. . .	. . .	Apr. 26	Apr. 26
Chipping Sparrow	Mar. 25	Mar. 26	Mar. 21	Mar. 16	Apr. 26	Mar. 26	Mar. 26	. . .	. . .	Mar. 27	. . .	Apr. 5	Mar. 25
Field Sparrow	Mar. 7	Mar. 9	Mar. 8	Mar. 17	. . .	Apr. 3	Mar. 5	. . .	Mar. 20	Mar. 15	. . .	Mar. 14	Mar. 7
Swamp Sparrow	Apr. 24	. . .	. . .	. . .	. .	May 13	Apr. 24	. . .	. . .	. . .	. . .	. . .	Apr. 24
Fox Sparrow	. . .	. . .	. . .	Mar. 2	. . .	Mar. 6	Mar. 5	. . .	. . .	Feb. 20	. . .	Mar. 14	Mar. 2
Chewink	Apr. 16	Apr. 10	Apr. 25	Apr. 18	Apr. 18	Mar. 13	Apr. 24	Apr. 24	. . .	Apr. 17	Apr. 14	Mar. 19	Apr. 16
Rose-breasted Grosbeak	May 15	. .	May 11	May 13	. . .	May 10	May 4	. . .	. . .	May 14	. . .	. . .	May 4
Indigobird	May 15	May 15	May 13	. .	May 15	May 11	May 6	. . .	. . .	May 14	May 17	May 9	May 14
Scarlet Tanager	May 15	May 8	May 13	May 11	May 10	May 10	May 10	May 8	. . .	May 14	. . .	May 8	May 10
Purple Martin	Apr. 5	. . .	. . .	. . .	. . .	. . .	May 6	. . .	. . .	. . .	. . .	May 2	. . .

Name	Moorestown, N. J.	Media, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Addingham, Pa.	Ardmore and Haverford, Pa.	Merion, Pa.	Wayne, Pa.	Byberry, Pa.	Germantown, Phila.	Fairmount Park, Phila.	Frankford, Phila.	Bulk Arrival, 1921.
Cliff Swallow	. . .	. . .	. . .	. . .	. . .	. . .	Apr. 28	. . .	. . .	. . .	. . .	. .	. . .
Barn Swallow	Apr. 25	. . .	Apr. 15	. . .	Apr. 30	Apr. 16	Apr. 27	. . .	. . .	Apr. 29	May 6	Apr. 16	Apr. 16
Tree Swallow	Apr. 25	. . .	. . .	. . .	. . .	May 10	. . .	. . .	. . .	Mar. 25	. . .	May 11	May 10
Bank Swallow	. . .	. . .	. . .	. . .	. . .	. . .	Apr. 27	. . .	. . .	May 7	. . .	. . .	. . .
Rough-winged Swallow	. . .	. . .	. . .	. . .	. . .	Apr. 29	. . .	. . .	. . .	. . .	. . .	Apr. 26	. . .
Cedar Bird	. . .	Mar. 8	Mar. 7	. . .	. . .	Mar. 7	May 7	. . .	. . .	Mar. 13	. . .	. . .	Mar. 7
Red-eyed Vireo	May 11	May 17	May 13	May 10	May 10	May 4	May 10	May 15	. . .	May 13	May 8	May 10	May 10
Warbling Vireo	May 16	. . .	May 7	May 11	. . .	May 14	May 10	. . .	. . .	May 18	May 11	May 24	May 11
Yellow-throated Vireo	May 8	. . .	May 13	May 10	. . .	May 15	. . .	. . .	. . .	May 11	May 12	. . .	May 12
Solitary Vireo	. . .	. . .	May 9	Apr. 24	. . .	May 2	. . .	. . .	. . .	. . .	. . .	. . .	. . .
White-eyed Vireo	Apr. 24	. . .	May 7	May 13	. . .	May 15	May 20	. . .	. . .	. . .	. . .	. . .	May 8
Black and White Warbler	Apr. 24	May 12	Apr. 30	May 6	May 1	Apr. 29	May 6	. . .	. . .	Apr. 20	May 2	. . .	Apr. 30
Worm-eating Warbler	. . .	. . .	May 9	May 13	. . .	May 15	. . .	. . .	. . .	May 11	. . .	. . .	May 11
Blue-winged Warbler	Apr. 28	May 8	May 2	. . .	May 11	May 13	. . .	. . .	. . .	Apr. 30	May 11	May 16	May 8
Parula Warbler	May 11	. . .	May 12	May 10	. . .	May 11	May 8	. . .	. . .	May 11	. . .	. . .	May 11
Yellow Warbler	Apr. 18	. . .	May 9	Apr. 28	May 4	May 8	Apr. 27	. . .	. . .	May 8	May 12	Apr. 26	Apr. 27
Black-throated Blue Warbler	May 15	. . .	May 11	May 10	May 1	May 10	. . .	. . .	. . .	May 11	May 8	May 16	May 10
Myrtle Warbler	Apr. 12	Apr. 4	Apr. 1	Apr. 19	Apr. 24	Mar. 13	Apr. 24	. . .	. . .	Apr. 14	May 2	. . .	Apr. 11
Magnolia Warbler	May 13	. . .	May 13	May 14	May 13	May 13	. . .	. . .	. . .	May 13	May 17	May 16	May 13
Chestnut-sided Warbler	May 8	. . .	May 13	. . .	. . .	May 2	May 8	. . .	. . .	May 13	May 16	May 13	May 13
Black-poll Warbler	May 13	May 15	May 15	May 18	May 10	May 13	May 8	. . .	. . .	May 13	May 17	May 21	May 13
Blackburnian Warbler	May 15	. . .	May 13	May 13	. . .	May 15	. . .	. . .	. . .	. . .	. . .	May 16	May 15
Black-throated Green Warbler	May 15	May 8	May 9	May 6	. . .	May 2	May 8	. . .	. . .	May 1	May 8	May 7	May 7

Name	Moorestown, N. J.	Media, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Addingham, Pa.	Ardmore and Haverford, Pa.	Merion, Pa.	Wayne, Pa.	Byberry, Pa.	Germantown, Phila.	Fairmount Park, Phila.	Frankford, Phila.	Bulk Arrival, 1921.
Pine Warbler	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Yellow Palm Warbler	. . .	Apr. 10	Apr. 20	. . .	Apr. 28	Apr. 17	. . .	. . .	. . .	Apr. 30	. .	Apr. 24	Apr. 17
Prairie Warbler	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Ovenbird	Apr. 25	May 8	Apr. 25	May 6	. . .	Apr. 29	May 6	May 6	. . .	Apr. 30	May 8	May 2	Apr. 29
Water Thrush	. . .	. . .	. . .	. . .	. . .	Apr. 14	. . .	. . .	. . .	Apr. 30	May 8	May 12	Apr. 30
Kentucky Warbler	. . .	May 8	Apr. 28	May 10	Apr. 30	May 8	. . .	. . .	. . .	May 11	May 20	May 16	May 8
Maryland Yellowthroat	Apr. 24	Apr. 23	Apr. 26	Apr. 23	May 15	Apr. 24	Apr. 29	. . .	. . .	Apr. 30	May 2	Apr. 26	Apr. 26
Chat	Apr. 28	. . .	May 3	May 20	May 17	May 13	May 6	. . .	. . .	May 15	May 17	May 16	May 15
Canada Warbler	May 20	. . .	May 17	May 19	. . .	May 13	. . .	. . .	. . .	May 13	May 17	. . .	May 15
Redstart	May 11	May 13	May 11	May 9	May 11	May 10	. . .	. . .	. . .	May 13	May 9	. . .	May 11
Catbird	Apr. 25	May 1	Apr. 27	Apr. 25	Apr. 28	Apr. 24	May 8	. . .	. . .	Apr. 25	Apr. 27	May 2	Apr. 27
Brown Thrasher	Apr. 20	Apr. 10	Apr. 15	Apr. 20	Apr. 16	Apr. 10	Apr. 24	Apr. 21	. . .	Apr. 23	Apr. 21	Apr. 12	Apr. 16
House Wren	Apr. 20	Apr. 20	Apr. 21	Apr. 21	Apr. 28	Apr. 22	Apr. 19	Apr. 23	. . .	Apr. 23	Apr. 20	Apr. 19	Apr. 20
Long-billed Marsh Wren	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Ruby-crowned Kinglet	Apr. 18	. . .	Apr. 16	. . .	. . .	Apr. 3	. . .	. . .	. . .	. . .	Apr. 14	May 11	Apr. 14
Wood Thrush	May 14	Apr. 28	Apr. 27	Apr. 24	Apr. 28	Apr. 25	Apr. 21	May 4	. . .	Apr. 11	Apr. 27	May 2	Apr. 27
Wilson's Thrush	May 15	. . .	May 9	May 24	. . .	May 10	. . .	. . .	. . .	May 1	. . .	. . .	May 13
Gray-cheeked Thrush	. . .	. . .	. . .	. . .	. . .	. . .	May 6	. . .	. . .	Apr. 4	May 27	. . .	. . .
Olive-backed Thrush	May 15	. . .	. . .	May 18	. . .	May 13	. . .	. . .	. . .	May 13	May 8	. . .	May 13
Hermit Thrush	Apr. 21		. . .	. . .	. . .	Apr. 17	May 6	. . .	. . .	Feb. 17	Apr. 13	Apr. 18	Apr. 13
Robin	Mar. 2	Feb. 27	Feb. 3	Feb. 17	Mar. 2	Mar. 2	Mar. 1	Mar. 3	Feb. 28	Mar. 5	. . .	Mar. 7	Mar. 1
Bluebird	Mar. 7	Res.	Feb. 28	Mar. 5	Mar. 4	Mar. 6	Jan. 2	Mar. 6	Feb. 16	Mar. 6	. . .	Mar. 7	Mar. 3

Pied-billed Grebe, *Podilymbus podiceps.* Princeton, N. J,, October 3–November 25 and March 13–April 10 (Rogers); Germantown, Phila., April 18 (Barker); Newtown, March 22 (Packer); Reading, August 25–October 29 (1 to 6) and March 13–April 10 (Poole).*

Horned Grebe, *Colymbus auritus.* Princeton, N. J., November 23 (1) (Rogers); Reading, April 16 (Poole).

Loon, *Gavia immer.* Cape May Point, N. J., 150 to 200 April 10 (Hand); Princeton N. J., April 26, one flying over (Rogers); Reading, April 9 and May 1 (Poole).

Bonaparte's Gull, *Larus philadelphia.* Princeton, N. J., May 6 (1 after N. E. storm) (Rogers); Camden, N. J., April 25 (2) and October 4 (many) (Miller).

Ring-billed Gull, *Larus delawarensis.* Bellingsport, March 12 (a few) (Miller).

Herring Gull, *Larus argentatus.* Princeton, N. J., November 21–March 2, irregular (Rogers); Frankford, Phila., November 3–May 11 rare after April 15 (Miller); Stone Harbor, N. J., January 26 (2); July 3 (10), July 17 (12), all immature (Miller); Chester, May 15 (2) (Miller); Swarthmore, April 13 (2) (Palmer); Wayne, March 6 (4) (Alexander).

Laughing Gull, *Larus atricilla.* Cape May, April 17 (Hand); Atlantic City, N. J., May 8 (Cromie); Philadelphia on the Delaware, May 15–19 and September 11–October 11 (Miller).

Least Tern, *Sterna antillarum.* Cape May Point, N. J., May 30, several (Miller).

Black Tern, *Chlidonias nigra surinamensis.* Reading, August 8–9, 1920 (Poole).

American Merganser, *Mergus americanus.* Princeton, N. J., November 23–December 24 and March 2–13 (Rogers); Reading, February 19 (3) (Poole).

Red-breasted Merganser, *Mergus serrator.* Cape May, N. J., April 17 (Hand).

Hooded Merganser, *Lophodytes cucullatus.* Princeton, N. J., November 21–23 immature and an adult December 24 (Rogers).

Mallard, *Anas platyrhychos.* Princeton, N. J., October 31 (1) and April 3 (4) (Rogers); Pennsville, N. J., a pair, May 15 (Miller).

* Localities in Pennsylvania and dates in 1921, unless otherwise indicated.

Black Duck, *Anas rubripes tristis.* Princeton, February 6 –April 10 (Rogers); Womelsdorf, Berks Co., November 20 (Poole).

Green-winged Teal, *Nettion carolinense.* Princeton, N. J., April 3 female (Rogers).

Pintail, *Dafila acuta.* Princeton, N. J., March 2 (5) (Rogers).

Wood Duck, *Aix sponsa.* Princeton, N. J., March 13 (Rogers); Salem, N. J., nest and six eggs, April 17 (8 eggs by May 1) (Miller); Newtown, March 13 (Packer); Collegeville, on Skippack Creek, nest and 11 eggs (Kline); Reading, August 24 (10) and September 12 (6) (Poole).

Scaup, *Marila marila* (or *affinis*). Princeton, N. J., March 6 and April 10 (5) (Rogers); Reading, April 9 and May 1 (Poole).

Golden-eye, *Glancionetta clangula americana.* Princeton, N. J., November 21 (2); November 28 (1) (Rogers): Reading, April 16 (2) (Poole).

White-winged Scoter, *Oidemia deglandi.* Princeton, N. J., November 28 (4) (Rogers).

Ruddy Duck, *Erismatura jamaicensis.* Princeton, N. J., November 1–21 fairly common (Rogers).

Canada Goose, *Branta canadensis canadensis.* Cape May, N. J., all winter, November 21 large numbers, 14 flocks seen (Hand) probably 1000 birds in sight at one time; West Chester, March 16 and 17 flocks passing over (Sharples); Wormelsdorf, Berks Co., December 4 and 20 (2) (Poole).

Mute Swan, *Cygnus olor.* Thorofare Island, Barnegat Bay, N. J., January 11, 1921 (4) (Culver).

Coot, *Fulica americana.* Princeton, N. J., October 16–November 21 (Rogers).

Virginia Rail, *Rallus virginianus.* Princeton, N. J., April 17 (Rogers).

King Rail, *Rallus elegans.* Pennsville, N. J., April 17 (Miller); Cape May, N. J., May 30, nest and 9 eggs (Miller).

Clapper Rail, *Rallus crepitans.* Cape May, N. J., April 17 (Hand).

Bittern, *Botaurus lentiginosus.* Cape May, N. J., April 10

(Hand); Cape May, N. J., nest and five eggs May 22 another with two nestlings, May 30 (Miller); Princeton, N. J., April 10 (Rogers); Bridesburg, Phila., nest and five eggs (Miller) Bechersville, Berks Co., November 4 (Poole); Lopez, May 10 (Behr).

Great Blue Heron, *Ardea herodias herodias.* Delaware City, Del., feeding young in the nest May 15 (Fox); Buckshutem, N. J., October 24 and November 21 (Prince); Moorestown, N. J., May 15 (Linton); Princeton, N. J., to October 22, 1920 and April 3–10 (Rogers), Pennsville, N. J., March 13, thirty already in the herony (Miller); Concordville, April 23 (Styer); Lopez, April 13 (Behr).

Least Bittern, *Ixobrychus exilis.* Princeton, N. J., May 8 (Rogers).

Green Heron, *Butorides virescens.* Buckshutem, N. J., April 2 (Prince).

Egret, *Casmerodius egretta.* Rancocas Creek, N. J., five from July to September (Pumyea); Moselem, Berks Co., August 22 and 23, 1920 (Poole).

Little Black Rail, *Creciscus jamaicensis.* Stone Harbor, N. J., June 12 nest and 7 eggs (Miller).

Woodcock, *Philohela minor.* Cape May, N. J., a flight, October 29–30 (Hand); Pennsville, N. J., March 13, April 17 and May 1; Peermont, N. J., July 17 (Miller); Bustleton, Phila., June 7 and 14 and Holmesburg, Phila., October 24 (Miller); Reading, October 10, March 13 and 20 (Poole).

Wilson's Snipe, *Gallinago delicata.* Cape May, N. J., March 7 (Hand); Princeton, N. J., March 20 (Rogers); Center Square, March 19 (Miller); West Chester, March 17 (Sharples); Newtown, April 4 (Packer); Reading, March 20 (4) (Poole).

Upland Plover, *Bartramia longicauda.* Lower Penn's Neck, N. J., March 20 (2) (Miller); Center Square, March 25 and 30 (Miller); Reading, two pair bred near Walnuttown, June 6 1920 (Poole); seen also August 12 and 15 at Reading, April 24 at Sinking Spring and May 22 at Moselem (Poole).

Hudsonian Curlew, *Numenius hudsonicus.* Cape May, N. J., April 16 (Hand).

Willet, *Catoptrophorus s. semipalmatus.* Stone Harbor, N. J., July 17 (Miller).

Least Sandpiper, *Pisibia minutilla.* Cape May, N. J., April 17 (Hand); Atlantic City, N. J., May 30 (Cromie); Reading, August 8 (8) and up to September 11 (Poole).

Semipalmated Sandpiper, *Ereunetes pusillus.* Atlantic City, N. J., May 30 (Cromie); Reading, August 8–September 18 (Poole).

Greater Yellow-legs, *Totanus melanoleucus.* Cape May, N. J., March 20 (Hand); Atlantic City, N. J., May 30 (Cromie); Princeton, N. J., October 31, April 17 and May 21 (Rogers); Cape May Point, N. J., May 30 (Miller).

Lesser Yellow-legs, *Totanus flavipes.* Richmond, Phila., August 15 (Miller); Reading August 8 and 9, 25 and 26 (Poole).

Solitary Sandpiper, *Tringa s. solitaria.* Westtown, May 22 (Roberts).

Killdeer, *Oxyechus vociferus.* Buckshutem, N. J., young leaving eggs, April 25 (Prince); Center Square, February 26 (Miller).

Piping Plover, *Charadrius melodus.* Cape May, N. J., April 10, a pair (Hand).

Semipalmated Sandpiper, *Charadrius semipalmatus.* Atlantic City, N. J., May 30 (Cromie); Stone Harbor, N. J., July 17 eleven (Miller); Reading, August 8–September 18, abundant (Poole).

Ruffed Grouse, *Bonasa umbellus umbellus.* Wall Pond, Cape May Co., N. J., ten on December 16 (Hand).

Ring-neck Pheasant, *Phasianus colchicus.* Center Square, common (Miller).

Mourning Dove, *Zenaidura macroura carolinensis.* Salem, N. J., April 16, nest on the ground, two eggs (Scoville); West Chester, December 5 (2) (Roberts).

Turkey Vulture, *Cathartes aura septentrionalis.* Pennsgrove, N. J., nest and two fresh eggs, April 10 (Miller); Newtown Square, May 8, nest and two young just hatched (Miller).

Cooper's Hawk, *Accipiter cooperi.* Haddonfield, N. J., nest and three eggs April 25 (Miller); Franklinville, January 13, 20 and February 12 (Miller).

Bald Eagle, *Haliæetus leucocephalus.* January 1, two, one of which was shot eating small pig it had killed. West Chester, two on March 27 and 30; Gonglersville, May 21 (Sharples).

Golden Eagle, *Aquila chrysaëtos.* Topton, Pa., October 25, 1920, one shot and examined (Poole).

Red-tailed Hawk, *Buteo b. borealis.* Princeton, N. J., October 10–March 20 (Rogers); Reading, October 16–March 5 (Poole).

Red-shouldered Hawk, *Buteo l. lineatus.* Frankford, Phila., October 15–March 26 (Miller).

Broad-winged Hawk, *Buteo platypterus.* Princeton, N. J., April 24 (Rogers); Holmesburg, April 5, and Whitemarsh, nest and three eggs May 16 (Miller); West Chester, nest and 3 eggs May 8 (Sharples).

Duck Hawk, *Falco peregrinus anatum.* Princeton, N. J., January 20 (Rogers); Center Square, January 15 and 26, and February 17 (Miller); Reading, August 14 following flocks of Blackbirds going to roost (Poole).

Pigeon Hawk, *Falco c. columbarius.* Princeton, N. J., October 10 (Rogers); Doylestown, November 6 and 13, 1921 (MacReynolds).

Barn Owl, *Tyto pratincola.* White Marsh, April 24–May 16 and Holmesburg, April 5 (Miller); Reading, August 23 one shot (Poole); Sinking Spring, Berks Co., nest and 2 eggs (Poole); Concordville, May 26 (Styer).

Osprey, *Pandion h. carolinensis.* Lopez, April 27 (Behr); Buckshutem, N. J., February 18 (Prince).

Barred Owl, *Strix varia.* Cape May, N. J., May 22 pursued by Crows (Miller).

Long-eared Owl, *Asio wilsonianus.* Mt. Holly, N. J., December 26 (Pumyea); Princeton, N. J., eight wintered (Rogers); Gwynedd Valley, nest and 4 eggs April 9 (Miller); Pennsgrove, N. J., nest and 4 eggs April 10 and another with 5 eggs April 17, also nest and 4 eggs at Oreland, April 19 (Miller); Beckersville, November 7 and Adamstown, December 3 (Poole).

Short-eared Owl, *Asio flammeus.* Princeton, N. J., March 13 (Rogers).

Saw-whet Owl, *Cryptoglaux acadica.* Princeton, N. J., December 24 (Rogers).

Kingfisher, *Ceryle a. alcyon.* Gwynedd Valley, February 5 (Miller).

Flicker, *Colaptes auratus luteus.* Cape May, N. J., a flight, October 5 (Hand); Belfry, Phila., February 18 and 23 (Miller); West Chester, November 7 and 14 and December 26, one each time (Roberts).

Hairy Woodpecker, *Dryobates v. villosus.* Swarthmore, January 18 and March 6 (Palmer).

Downy Woodpecker, *Dryobates pubescens medius.* Swarthmore, June 2, young ready to fly (Palmer).

Red-headed Woodpecker, *Melanerpes erythrocephalus.* Pennsville, N. J., March 13 (2) (Miller).

Yellow-bellied Sapsucker, *Sphyrapicus varius varius.* Moorestown, N. J., November 26, 1920 (Mickle); Pennsville, N. J., March 13 (Miller); Reading, December 24 (Poole).

Chimney Swift, *Chaetura pelagica.* West Chester, May 6 about 1000 flew over (Sharples).

Arkansas Kingbird, *Tyrannus verticalis.* Princeton, N. J., November 14 a single bird—see Auk, XXXVIII, p. 117 (Rogers).

Olive-sided Flycatcher, *Nuttallornis borealis.* Lopez, June 3 (Behr).

Phoebe, *Sayornis phoebe.* Reading, December 18 and February 27 (Poole); Angelica, Berks Co., March 5 (Poole).

Alder Flycatcher, *Empidonax trailli alnorum.* Princeton, N. J., June 5, two singing (Rogers).

Yellow-bellied Flycatcher, *Empidonax flaviventris.* Reading, September 2 (2) and May 14; Bernharts, Berks Co., September 8 (2) (Poole).

Whip-poor-will, *Antrostomus v. vociferus.* Cape May, N. J., September 2 (Hand).

Horned Lark, *Octocoris alpestris alpestris.* Princeton. N. J., November 21–April 3, irregular (Rogers); Center Square, February 18 (80) and 26 (3) (Miller); Newtown, January 12 (25) (Packer); Reading, November 14–February 27 common (Poole).

Prairie Horned Lark, *Otocoris alpestris praticola.* Reading, February 27 (Poole).

Blue Jay, *Cyanocitta c. cristata.* Wayne, none till April 25 (Alexander); West Chester, none till April 27 (Roberts); Reading, none from October 23 to April 10 (Poole).

Cowbird, *Molothrus a. ater.* Tinicum, February 16 (8) (Miller).

Redwinged Blackbird, *Agelaius phoeniceus phoeniceus.* Princeton, N. J., a flock of 69 females and one male wintered (Rogers); Buckshutem, N. J., a flock of 1000 on the meadows on February 10 (Prince); Tinicum, February 16 (12) (Miller).

Bobolink, *Dolichonyx oryzivorus.* Richmond, Phila., a female on the Delaware marshes, June 13 (Miller).

Purple Grackle, *Quiscalus quiscula quiscula.* Vineland, N. J., January 5 (Prince).

Rusty Blackbird, *Euphagus carolinus.* Reading, February 1 (2) (Poole).

Red Crossbill, *Loxia curvirostra minor.* West Chester, May 5 (8) (Ehinger) May 21 (1) (Roberts).

Henslow's Sparrow, *Passerherbulus henslowi.* Smyrna, Del., nest completed May 28 (Scoville); Pennsville, April 17 many (Miller).

Savannah Sparrow, *Passerculus sandwichensis savanna.* Center Square, last seen, May 12 (Miller).

Goldfinch, *Astragalinus tristis tristis.* Princeton, N. J., none from January 3 to March 6 (Rogers); West Chester, none till April 15 (Roberts).

Purple Finch, *Carpodacus p. purpureus.* Frankford, Phila., October 11 (Miller).

Lincoln's Sparrow, *Melospiza l. lincolni.* Princeton, N. J., May 15 (1) (Rogers).

Tree Sparrow, *Spizella m. monticola.* Mount Holly, N. J., December 12–March 6 (Pumyea); Princeton, N. J., November 7–April 3 (Rogers); Frankford, October 7–March (Miller); West Chester, November 11–February 24 (Roberts); Reading, November 6–March 5 (Poole).

White-throated Sparrow, *Zonotrichia albicollis.* Vineland, N. J., November 16–May 14 (Prince); Moorestown, N. J., October 7–April 28 (Mickle); Mt. Holly, N. J., September 29–May 11 (Pumyea); Princeton, N. J., October 6–May 22 (Rogers);

Frankford, September 19–May 16 (Miller); Swarthmore, April 25–May 9 (Palmer); Haverford, last seen May 15 (Scoville); Ardmore, five wintered (Baily); Darling, October 24–April 20 (Daley); West Chester, October 20–May 9 (Roberts); Carversville, Berks Co., October 8–December 21 and March 9–May 3 (Cox); Reading, September 25–May 15 (Poole).

White-crowned Sparrow, *Zonotrichia l. leocophrys.* Doylestown, October 23, 1921 (MacReynolds); Greencastle, May 9 (Ziegler); Reading, October 10, 1920 (Poole) and May 8, 14 and 19 (Poole).

Fox Sparrow, *Passerella i. iliaca.* Wintered at Frankford, Holmesburg and Bustleton (Miller); Darling, a flock, October 25 and a few December 11 (Daley).

Swamp Sparrow, *Melospiza georgiana.* Holmesburg, January 6 (Miller).

Junco, *Junco hyemalis hyemalis.* Vineland, N. J., November 21–March 20 (Prince); Downstown, N. J., October 10–April 6 (Fair); Moorestown, N. J., October 11 (Mickle); Mt. Holly, N. J., October 8–April 3 (Pumyea); Princeton, N. J., October 4–May 8 (Rogers); Frankford, Octobor 6–April 12 (Miller); West Chester, November 7–March 27 (Roberts); Carversville, September 20–April 23 (Cox); Reading, October 13–March 25 (Poole).

Towhee, *Pipilo e. erythrophthalmus.* Princeton, N. J., male December 24 (Rogers); Pennsville, N. J., March 13 (Miller).

Scarlet Tanager, *Piranga erythromelas.* Bridgeton, N. J., June 19 (Prince).

Migrant Shrike, *Lanius ludovicianus migrans.* West Chester, December 17 (Roberts); Doylestown, December 11–February 5 (MacReynolds).

Tennessee Warbler, *Vermivora peregrina.* Moorestown, N. J., May 9 (Wireman); Princeton, N. J., May 18 singing (Rogers); Lansdowne, May 18 (Carter); West Chester, May 9 and 17 (Roberts); Haverford, May 15 (Scoville); Concordville, May 13 (Styer); Reading, May 15 (Poole); Lopez, May 13 (Behr).

Golden-winged Warbler, *Vermivora chrysoptera.* Lansdowne, (Carter); Haverford, May 13 (Scoville); Concordville, May 15 (Styer); Reading, May 6 (Poole).

Nashville Warbler, *Vermivora r. ruficapilla.* Haverford, May 13 (Scoville); Reading, May 14 (Poole); Princeton, N. J., October 3–May 13 (Rogers).

Bay-breasted Warbler, *Dendroica castanea.* Princeton, N. J., May 16, 19 and 22 (Rogers); West Chester, May 17 (1) (Roberts); Reading, May 14 (Poole).

Palm Warbler, *Dendroica palmarum palmarum.* Princeton, N. J., October 3 and 24 (Rogers).

Pine Warbler, *Dendroica vigorsi.* Pennsville, N. J., March 13 (Miller).

Cape May Warbler, *Dendroica tigrina.* Moorestown, N. J., May 11 (Wireman); Concordville, May 12 (Styer); Reading, May 13 (2), 14 (2) (Poole); Haverford, May 9 (Scoville).

Myrtle Warbler, *Dendroica coronata.* Darling, abundant, April 24–May 15 (Daley); Reading, December 12 (Poole); Haverford, January 16 (3) single ones on other dates in winter, migrants April 17 (Serrill).

Connecticut Warbler, *Oporornis agilis.* Reading, September 25 (2) (Poole).

Maryland Yellowthroat, *Geothlypis trichas trichas.* Reading, December 18 (Poole).

Wilson's Warbler, *Wilsonia pusilla pusilla.* Princeton, N. J., May 15 (Rogers); Concordville, March 29 (Styer); Mohreton, Berks Co., May 21 (Poole); Haverford, May 15 (Scoville and Serrill).

Hooded Warbler, *Wilsonia citrina.* Cape May, N. J., April 21 (Hand); Princeton, N. J., May 15 (Rogers); Pennsville, N. J., May 1 (Miller); Hamburg, several May 22 (Poole).

Water-Thrush, *Seiurus n. noveboracensis.* Vineland, N. J., October 14 (Prince); watched it for five minutes.

Louisiana Water Thrush, *Seiurus motacilla.* Chestnut Hill, Phila., June 28 one on the Wissahickon (Miller); Reading, May 7 (Poole).

Pipit, *Anthus rubescens.* Princeton, N. J., abundant September 26–November 14 (Rogers); Newtown, March 13 (30) April, 8 (20) (Packer); Doylestown, November 6, 1921, 500 (MacReynolds); Reading, March 26 (25) (Poole).

Mockingbird, *Mimus p. polyglottos.* One wintered at Princeton, N. J. (Rogers).

Carolina Wren, *Thryothorus l. ludovicianus.* Downstown, N. J., none in the winter of 1921 (Fair).

Bewick's Wren, *Thryomanes b. bewicki.* Nested at Greencastle, April 7 (Ziegler).

Winter Wren, *Nannus h. hiemalis.* Mt. Holly, N. J., October 8 (Pumyea); Princeton, N. J., October 3–March 20 (Rogers); Frankford, Phila., September 20–November (Miller); Reading, one on October 16 (Poole) only record.

Brown Creeper, *Certhia familiaris fusca.* Moorestown, N. J., November 3–April 3 (Mickle); Mt. Holly, N. J., October 8 –March 25 (Pumyea); Frankford, Phila., October 11–November (Miller); Darling, October 15 (Daley); Reading, abundant October 15–April 10 (Poole).

Carolina Chickadee, *Penthestes c. carolinensis.* West Chester, May 21 (Roberts) probably this species from the date.

Black-capped Chickadee, *Penthestes a. atricapillus.* Between High Falls and Ringing Rocks, Bridgeton Twp., Bucks Co., July 1920, 20–30 (MacReynolds), first summer record; Ardmore, February 1 (4) (Baily).

Tufted Titmouse, *Baeolophus bicolor.* Reading, local, only two groups known (Poole).

Blue-gray Gnatcatcher, *Polioptila c. caerulea.* Pennsville, N. J., May 1 (3) (Miller).

Golden-crowned Kinglet, *Regulus satrapa satrapa.* Moores, town, N. J., November 26–April 16 (Mickle); Mt. Holly, N. J., October 10–March 10 (Pumyea); Princeton, N. J., October 6–April 5 (Rogers); Frankford, Phila., October 4 (Miller); Reading, October 16–March 13 rather scarce (Poole).

Ruby-crowned Kinglet, *Regulus c. calendula.* Princeton, N. J., December 24 (2) (Rogers); Darling, October 15–November 7 (Daley); Concordville, February 21 and March 12 (Styer); Reading, February 27 (Poole).

Hermit Thrush, *Hylocichla guttata pallasi.* Vineland, N. J., November 7 (Prince); Delaware City, Del., March 27 (Miller).

Robin, *Planesticus m. migratorius.* Six pairs nesting March 27, eggs April 6, young April 25 (Beatty).

Abstract of the Proceedings of the Delaware Valley Ornithological Club, 1920

January 2, 1920. Thirtieth annual meeting. Twenty-four members and two visitors present. The election of officers resulted as follows:

President—J. Fletcher Street.
Vice-President—George H. Stuart, 3rd.
Treasurer—Samuel C. Palmer.
Secretary—Julian K. Potter.

Dr. Spencer Trotter spoke on the "Early History of the Club," and amusing lantern-slides of members were exhibited.

The following local notes were reported: Baltimore Oriole, December 26, Swarthmore, Pa. (*S. C. Palmer*), and another found dead at Wyncote, Pa., December 27, was exhibited; Tree Swallow, Cape May, N. J., December 31 (*Stone* and *Trotter*); Phoebe, Haddonfield, N. J., December 25 (*S. N. Rhoads*); Catbird found dead, Ardmore, Pa., December 21 (*W. L. Baily*); Snow Bunting, Seaside Park, N. J., December 28 (*J. K. Potter*); Robin, Swarthmore, Pa., December 19 (*S. C. Palmer*).

January 15, 1920. Thirty-one members and two visitors present.

Mr. Geo. H. Stuart, 3rd, made a communication entitled "On the Trail of the Greater Yellow-legs in Newfoundland."

Local notes: Purple Grackle, Swarthmore, January 6 (*Howard*); Rusty Blackbird, Moorestown, N. J., December 25 (*Carter*); Red Crossbill, Gloucester, N. J., January 11 (*Potter*).

Mr. Carter reported seeing a duck equalling the speed of a train which was going at the time over fifty miles an hour.

February 5, 1920. Twelve members present. Mr. Wm. E. Roberts spoke on "A Farmer Boy's Bird Reminiscences."

Local notes: Evening Grosbeak, Mt. Holly, N. J., December 27, and Red Crossbill, February 1 (*Pumyea*); Evening Grosbeak, Bryn Mawr, Pa., January 15 (*Baily*), and Reading, Pa., December 26 (*Roland*); Killdeer, Downingtown, Pa., January 22, and Purple Grackle, Ardmore, Pa., January 25 (*Baily*); Redpoll, Camden, N. J., January 18 (*Potter*).

February 19, 1920. Twenty-eight members and one visitor present.

Dr. Witmer Stone described "A Visit to the Gulf Coast Bird Reservations," a trip with Capt. Sprinkle, the Audubon warden, to islands off the coast of Mississippi and Louisiana.

A Kingfisher and Flicker were reported from Beverly, N. J., February 12 (*Baird*); Evening Grosbeak, Haverford, Pa., February 14 (*G. Scoville*); flock of 100 Redpolls, West Collingswood, N. J., February 8 (*Pangburn*).

March 4, 1920. Twenty-seven members and four visitors present.

Messrs. A. W. Robinson and J. K. Potter spoke on "Days on the New Jersey Coast," covering trips to Cape May, N. J., and vicinity, August 22 to September 6, 1919. Ninety species were noted. Many interesting lantern-slides of the region were shown.

Mr. Erskine reported a Phoebe at Wenonah, N. J., February 22; Prof. Beck wrote of Myrtle Warblers at Lancaster, Pa., the last week of February; Mr. Baily reported five Wilson's Snipe at Ardmore, Pa., February 12; Redpolls were noted at Beverly, N. J., February 29 (*Street*), and a Great Blue Heron at Mt. Holly, N. J., February 18 (*Pumyea*).

March 18, 1920. Twenty-two members and three visitors present.

Mr. J. A. G. Rehn spoke on "Some Bird Notes from Desert and Mountain," covering a trip to the southwestern United States.

Mr. Beatty reported a flock of about 500 Pintails at Beverly, N. J., March 14, also a Pied-billed Grebe occupying a mud puddle at Delanco, N. J., March 13.

April 1, 1920. Eighteen members and one visitor present.

Mr. Pangburn spoke of "Bird Observations from Far and Near"—England, France, and St. Petersburg, Florida. Mr. Hannum followed with "Notes on the Water Ouzel and Other Colorado Birds."

Dr. Trotter reported a partially albino Robin at Swarthmore, Pa., and stated that it had been noted for six successive seasons.

Dr. Palmer reported Red Crossbills at the same place, March 29, and Mr. Evans a pair of Bald Eagles at Riverton, N. J., February 28.

April 15, 1920. Twenty-one members present.

Dr. J. E. Packer described his ornithological experiences in France during the war—a period of twenty-two months.

Mr. Roland reported 200 Pipits at Oaks, Pa., April 10, and Mr. Howard a Merganser at Ridley Creek, Pa., March 24.

May 6, 1920. Twenty-seven members and one visitor present.

Dr. Stone discussed our knowledge of the distribution of Warblers in Pennsylvania and New Jersey, pointing out the regions from which we needed more data.

Mr. Evans reported Evening Grosbeaks at Moorestown, N. J., April 9-17; Red Crossbills were reported from West Chester, Pa., May 4 (*Ehinger*); a Prothonotary Warbler studied carefully at close range at Mt. Holly, N. J. (*Pumyea*); Gnatcatcher at Swarthmore, Pa., April 17 (*Howard*), Mt. Holly, April 25 (*Pumyea*), and West Chester, April 24 (*Ehinger*); Dr. Stone reported a male Hummingbird at Newtown Square, Pa., April 25, the earliest occurrence in his experience, and Mr. Roland a Ruddy Duck at Oaks, Pa., April 23.

May 20, 1920. Thirteen members and one visitor present.

Mr. Hannum spoke on "An Easter Trip to Virginia," covering the Shenandoah region from Luray to the summit of the Blue Ridge and from Fredericksburg to Indian Neck. Bewick's Wren was found about Luray.

Mr. Stuart reported the Hairy Woodpecker nesting at Beverly, N. J., May 18, and Mr. Street a Broad-winged Hawk with two eggs at Arcola, Pa., May 11.

October 7, 1920. Twenty-nine members present.

Mr. Stuart described "A Spring Trip to California," from March 10 to early April. Eggs of many interesting species were obtained, including Golden Eagle, Prairie Falcon, Yellow-billed Magpie, etc.

October 21, 1920. Twenty-nine members and five visitors present.

Dr. Stone spoke on "An Intensive Study of Bird Life at Cape May, N. J., during the Summer of 1920." One hundred and thirty-five species were identified from June 28 to September 6. Summer residents and residents — land birds 60, water birds 11; transients — land birds 37, water birds 27. Among the species observed, the following were of especial note: Cape May and Yellow-throated Warblers, Yellow-bellied Flycatcher, Least Tern, Marbled Godwit, and Louisiana Heron. A number of Egrets and Little Blue Herons were present from August 1 on, and Gnatcatchers were frequently seen.

November 4, 1920. Twenty-three members and five visitors present.

Mr. N. D. W. Puymea was elected an Active member; Messrs. H. M. Harrison, T. G. McMullen, Howard Butcher, Jr., Lawrence La Due and Morrow Palmer, Associates, and Mr. G. Fred Ziegler, of Greencastle, Pa., a Corresponding member.

Mr. Carter spoke on "A Brief Glimpse of Florida Bird Life." He also referred to seeing a Bald Eagle pick up dead fish from the surface of the water.

Dr. Stone reported two Solitary Vireos, a Barn Swallow, Catbird and House Wren at Cape May, N. J., on October 31. There was also a large flight of Woodcock at the same locality October 29-30.

November 18, 1920. Twenty members and one visitor present.

A motion was carried unanimously that the Secretary place on record in the proceedings the election of Dr. Witmer Stone to the presidency of the American Ornithologists' Union, at the meeting held this week in Washington, D. C.

The following resolution was adopted:

"The Club has heard with deep sorrow of the death of their Associate Member Albert Whitaker. He was always held in the highest esteem by his fellow members and they extend to his family their sincere sympathy."

Mr. Morris read a paper entitled "Golfing with the Birds," dealing with opportunities of the golfer to observe bird life in the open places often too much neglected by the ornithologist. Ninety-seven species had been noted by him on the links at Pleasantville and Absecon, N. J., during a single season.

December 2, 1920. Twenty-three members and one visitor present.

Mr. Pennock read a paper on "Swift Notes from Laporte, Pa.," giving detailed observations on a roosting colony of Chimney Swifts in a large chimney, from July 23 to September 5. They numbered about a thousand when in greatest abundance. Many re-entered the chimney in the morning after having come out.

A Loon was reported captured at Greencastle, Pa., by G. F. Ziegler, Jr.

December 17, 1920. No regular meeting.

Mr. Donald MacMillan addressed the Club and their friends and members of the Academy in the Lecture Hall, on his recent Arctic expedition.

Abstract of the Proceedings of the Delaware Valley Ornithological Club, 1921

January 6, 1921. Thirty-nine members and five visitors present. Election of officers resulted in the choice of the present incumbents—

President—J. Fletcher Street.
Vice-President—George H. Stuart, 3rd.
Treasurer—Samuel C. Palmer.
Secretary—Julian K. Potter.

Dr. Trotter spoke on "The Past Year and the One to Come," and Mr. Street read a paper on the "Breeding of the Cerulean Warbler in Greene Co., Pa."

Mr. Pumyea reported a Sapsucker wintering at Mt. Holly, N. J., and Dr. Trotter spoke of Bonaparte's Gulls and Tree Swallows at Cape May, N. J., December 30, 1920.

A letter from Mr. Geo. Spencer Morris describing bird life at Miami, Fla., was read.

January 20, 1921. Eighteen members present.

Mr. Hannum spoke on "A Night and Day Off Breakwater" on August 14. An Osprey came five miles off shore opposite Cape Henlopen and caught fish in the wake of the vessel.

Mr. Roberts spoke on "Summer Birds at Tobyhanna, Pa."

February 3, 1921. Twenty members and two visitors present.

Dr. Stone spoke on "Additional Notes on Cape May Birds," reading some biographies that he had prepared on the Osprey, Spotted Sandpiper, Kingbird, etc., dealing with details of their life histories.

Dr. Stone also exhibited two King Eiders killed on the

Susquehanna River near Harrisburg, December 7, 1920, and submitted to him by the State Museum.

Mr. Culver reported two Palm Warblers at Cape May, N. J., December 26, and described a Tufted Titmouse using an old Red-eyed Vireo's nest for shelter during the winter. Mr. Gillen had observed the same habit.

February 17, 1921. Twenty members and two visitors present.

Mr. Baily described "Birds Seen on an Automobile Trip through Franklin and Adams Cos., Pa." (see *antea*).

Mr. Huber reported the Duck Hawks at City Hall tower, February 4, and Doves at Chestnut Hill, Philadelphia, February 12. Mr. McCall stated that Grackles had wintered at Haverford.

March 3, 1921. Twenty-two members and two visitors present.

Dr. Trotter addressed the Club on "Some European Birds and their Nearest American Relatives."

A letter from Mr. Samuel N. Rhoads, now in San Francisco, was read describing his experiences in the western states. Mr. Erskine reported a Phoebe at Wenonah, N. J., on February 3.

March 17, 1921. Twelve members present.

Dr. Stone spoke of "The Earliest Appearance of Birds in Literature."

Dr. Trotter reported finding a leg and feathers of a Kingfisher in the stomach of a Water Snake received from Woods Hole, Mass.

April 7, 1921. Fifteen members and one visitor present.

Mr. Rehn addressed the Club on "Some Notes on Colombian Birds," covering observations made during a trip to the Santa Marta mountains.

Dr. Palmer reported the return to Swarthmore of the partially albino Robin observed there for some years past.

April 21, 1921. Twenty-seven members and five visitors present.

Dr. Stone read an appreciative biographical sketch of the late Stewardson Brown and the following resolution was adopted:

"The members of the Delaware Valley Ornithological Club have heard with the deepest sorrow of the death of Stewardson Brown. Joining our society the year after its organization, he served us as Treasurer, Vice-President and President, and for thirty years took a leading part in all of our activities. Faithful officer and devoted member as he was, it will be as the dear friend and associate that we shall always remember him. Cheerful and generous, ever ready to bear his own burdens and to help others, he possessed a personality that endeared him to everyone with whom he came in contact. It is to such men as Stewardson Brown that the D. V. O. C. owes its success, and it is character such as he possessed that has welded the bonds that hold us so closely to one another."

Mr. Huber reported three Ipswich Sparrows, two Piping Plover and five Black-backed Gulls at Corson's Inlet, N. J., March 26, and Mr. Rhoads a Loon at Haddonfield, N. J., April 16.

May 5, 1921. Fifteen members present.

Mr. S. N. Rhoads spoke on "Birds of Fairy Point, Fla.," and Mr. Street described a recent trip to Smyrna, Del., where Wood Duck and Black Duck were found nesting.

May 19, 1921. Fifteen members present.

Mr. Morris addressed the Club on "Winter Birds of Biscayne Bay, Fla." based on his notes made during a winter residence at Miami.

October 6, 1921. Forty-two members and five visitors present.

Mr. Samuel Scoville, Jr., addressed the Club on "Bird Adventures on a Desert Island," an account of a visit with Messrs. Street, Stone, Cook and Parker to Brigantine and Little Beach Islands, N. J.

Dr. Packer reported a Migrant Shrike at Newtown, Pa., for the past six weeks. A Mockingbird was reported at Fish House, N. J., June 12 (*Potter*); Myrtle Warblers at Cape

May, N. J., August 10 (*Poole*), specimen secured August 13 (*Stone*). Mr. Stuart stated that he had found a House Wren nesting in an old nest of the Red-eyed Vireo during the past summer. Mr. Beatty reported a young Red-eyed Vireo ready to fly but still in the nest on September 6. Red-breasted Nuthatches were reported as very common.

October 20, 1921. Twenty-six members and three visitors present.

Dr. Stone described his experiences with the birds of Cape May, N. J., during the past summer; June 30–September 16, 138 species being recorded.

November 3, 1921. Twenty-four members and one visitor present.

The following were elected Associate members: Geo. B. Fox, Walter B. Keighton and S. J. Shorters.

Mr. Emlen spoke on "A Trip to the Big Cypress Swamp, Lee Co., Fla." Mr. Pennock followed with an account of the habits of the Florida Burrowing Owl.

Dr. Stone reported a Solitary Vireo at Foreway's Cabin, above May's Landing, N. J., on October 29, and Mr. Carter a Barn Owl at Lansdowne, Pa., November 3.

November 17, 1921. Eighteen members and one visitor present.

Mr. Potter described a trip to Arizona, covering May 23–July 10, 1920, mainly about Prescott.

Mr. McCall reported a Pileated Woodpecker near Newfoundland, Pocono Mts., Pa., early in November. A Saw-Whet Owl was reported at Glenside, Pa., November 12 (*Huber*), and one caught at Ardmore on the same date (*Baily*); Migrant Shrike killed at Collingswood, N. J., November 3 (*Potter*).

December 1, 1921. Twenty-two members present.

Mr. C. J. Hunt, formerly secretary of the Club, was present and gave an account of bird life and bird study about Chicago, where he now resides.

Mr. Carter presented observations during 1920-1921 in

Pennsylvania, New Jersey, Massachusetts, Kansas and Maryland, covering many interesting species — Bewick's Wren, Cerulean Warbler, Bell's Vireo, Dickcissel, etc. On May 29 he had visited the Laughing Gull colony at Stone Harbor, N. J., and counted 57 occupied nests. In the Poconos the presence of the Brown Creeper and Myrtle Warbler in the breeding season was noteworthy.

Mr. Street reported four Black-backed Gulls, a Yellow-legs, five Great Blue Herons, 2000 Black Ducks and seven Sanderling at Corson's Inlet, November 30. Mr. Pumyea reported a Great Blue Heron, a Mockingbird and an Evening Grosbeak at Mt. Holly, N. J., November 20.

December 15, 1921. Twenty-six members and four visitors present.

Mr. Huber spoke on "Hunting Wild Turkeys in the Sacramento Mountains, New Mexico," in 1920. Many other species were also referred to.

Mr. Potter reported a flock of 80 Red-backed Sandpipers and ten Black-bellied Plover at Corson's Inlet, N. J., December 4.

Club Notes

Fifteen meetings were held in 1920 and sixteen in 1921, with an average attendance of twenty-three for each year. Sixty-two members attended at least one meeting in 1920 and sixty-three in 1921.

* * *

Field trip to Darby Creek, February 23, 1920, was participated in by fourteen members and two visitors. There was a cold mist all day with the ground covered with snow. Twenty-three species were observed. Six Siskins, a Barn and a Long-eared Owl were the most notable species.

The trip to Rushland, May 30, 1920, resulted in a list of fifty-four species. Seven members and four visitors were in the party. Black-poll and Canada Warblers were observed, and the Bobolink.

No trip on Good Friday.

* * *

At the A. O. U. meeting in Washington, D. C., November, 1920, the Club was represented by Messrs. Stone, Fowler, Pennock, Stuart, Street, Robinson and Roland.

Dr. Stone was elected president of the Union and Mr. Stuart was appointed one of the three investing trustees.

* * *

The meeting of 1921 was held at the Academy of Natural Sciences of Philadelphia and the Club took a prominent part in carrying out the arrangements for the meetings and entertainment. At the annual dinner three notable ornithologists made their appearance—Alexander Wilson, impersonated by Richard Erskine, John J. Audubon by J. Fletcher Street, and Constantine Rafinesque by Julian K. Potter.

* * *

Mr. Potter has been writing the Philadelphia section of "The Season" in *Bird Lore*.

Bibliography, 1920-1921

Papers Relating to the Birds of Pennsylvania, New Jersey and Delaware.

Barnes, R. M. Account of the Christ Collection of Birds' Eggs at Nazareth, Pa. *Oölogist,* Sept., 1920, pp. 100-104.

Bunce, Florence de la M. Winter Birds at Ridgewood, N. J. *Bird-Lore,* May–June, 1920, p. 158.

Christmas Censuses. For 1919. Reports from 15 stations in New Jersey and 16 in Pennsylvania. *Bird-Lore,* Jan.–Feb., 1920, pp. 27-32. For 1920, from 16 New Jersey stations and 14 in Pennsylvania. *Bird-Lore,* Jan.–Feb., 1921, pp. 13-19.

Danforth, S. T. Some New Brunswick, N. J., Migration Records. *Oölogist,* Jan., 1921, p. 7.

——— Some Bird Notes from the Pine Barrens of New Jersey. *Ibid.,* pp. 7-8.—Pileated Woodpecker(?) heard and Blue-winged Warbler breeding commonly(!) at Brown's Mills.

Dickey, S. S. Days with the Cerulean Warbler. *Oölogist,* July, 1920, pp. 88-91. In southeastern Pennsylvania.

Hill, F. Blanche. Winter Notes from Andover, N. J. *Bird-Lore,* Nov.–Dec., 1920, p. 349.

Hooker, A. B. American Egrets in New Jersey. *Bird-Lore,* Nov.–Dec., 1921, p. 303.—Six on the Shrewsbury River, Red Bank, N. J.

Jackson, Thos. H. The Long-eared Owl [in Chester Co., Pa.] *Oölogist,* Jan., 1921, p. 77.

Jacobs, J. Warren. Bluebird and Chickadee Using Same Nest. *Oölogist,* March, 1920, p. 36.

Keesler, R. L. [Bachman's Warbler at Harrisville, Pa.] *Oölogist,* Dec., 1921, p. 170.—Obviously incorrect.

KOHLER, LOUIS S. Northern New Jersey Notes. Winter 1919-29. *Oölogist,* March, 1920, pp. 29-31.

——— A List for April 17 at Hawthorn, N. J. *Ibid.,* April, 1920, p. 47.

——— The Starling and its Depredations. *Ibid.,* p. 47.

——— Cape May Warbler in New Jersey. *Ibid.,* p. 48.

——— Redpoll and Cardinal at Hawthorn, N. J. during Winter 1919-20. *Ibid.,* June, 1920, p. 74.

KENT, E. G. Pileated Woodpecker in Morris County, N. J. *Auk,* Jan., 1920, p. 132.

MCCONNELL, THOMAS L. The Bird House for Purple Martnis. *Bird-Lore,* March–April, 1921, p. 75.

MILLER, M. H. Red Crossbill at Pittsburgh, Pa. *Bird-Lore,* March–April, 1920, p. 97.

MILLER, W. DEW. The Summer Resident Warblers of Northern New Jersey. *Auk,* Oct., 1920, p. 592.

——— The Hudsonian Chickadee in New Jersey. *Ibid.,* p. 593.—One killed at Ramsay, N. J., Nov. 1, 1913. All other New Jersey records are the Acadian race.

MILLER, W. DEW., and GRISCOM, L. Breeding of the Canadian Warbler and Northern Water-Thrush in New Jersey. *Auk,* Jan., 1920, p. 137.—Crusoe Lake, Sussex Co.

PENNOCK, CHARLES J. Personal mention. *Oölogist,* 1920, pp. 26, 28, 38.

PETERS, MRS. C. C. A Pennsylvania Mocker. *Bird-Lore,* March–April, 1920, p. 98.—One wintered at Newtown.

POTTER, J. K. The Season 1919-1920, Philadelphia Region. *Bird-Lore,* 1920, pp. 47, 105, 166, 225, 357.

——— Season 1920-21. *Ibid.,* 1921, pp. 33 and 306.

RICHARDSON, A. P. Evening Grosbeak in New Jersey. *Bird-Lore,* March–April, 1920, p. 98.—Two at Pt. Pleasant, N. J., first week of February, 1920.

RICHARDSON, RUSSELL, JR. Blue Grosbeak at Newtown, Pa. *Bird-Lore,* July–Aug., 1920, p. 222.—Evidence not at all convincing.

RUTTLEDGE, ARCHIBALD. Nonpareil in Pennsylvania. *Auk,* Oct., 1921, p. 606.—States that one was seen May 16,

1921, near Mercersburg, Pa.; observer familiar with it in South Carolina.

ROGERS, C. H. Arkansas Kingbird in New Jersey. *Auk,* Jan., 1921, p. 114.—One seen Nov. 14, 1920.

SCOVILLE, SAMUEL, JR. Every-day Adventures. *Atlantic Monthly Press,* Boston, 1920, pp. 1-241. — Mention of New Jersey and Pennsylvania birds.

SIMPSON, R. B. [Barred Owl and Pileated Woodpecker.] *Oölogist,* Feb., 1920, p. 24.—In Warren Co., Pa.

——— Maryland Yellow-throat [in Warren Co., Pa.]. *Ibid.,* April, 1920, p. 44.

——— Nesting of the Goshawk [in Penna.]. *Ibid.,* July, 1920, pp. 91-93.

——— Sharp-shins and Pileateds [in Warren Co., Pa.]. *Ibid.,* Nov., 1920, p. 134.

——— Two May Days. *Ibid.,* p. 142.

——— Birds Freezing. *Ibid.,* Oct., 1921, p. 135.—Cardinal at Warren, Pa.

——— The Brown Creeper. *Ibid.,* Nov., 1920, p. 153.

STONE, WITMER. Review of Burns' "Ornithology of Chester Co., Pennsylvania." *Auk,* Jan., 1920, p. 155. — Some additional data given.

——— The Wheatear in Eastern Pennsylvania. *Auk,* April, 1920, p. 303.—One shot by J. R. Gillen near Lansdale, Pa., October 6, 1919. Now in Princeton University.

——— The Louisiana Heron at Cape May, N. J. *Auk,* Oct., 1920, p. 580.—One seen August 1, 1920.

——— The Marbled Godwit on the New Jersey Coast. *Ibid.,* p. 580.—One seen at Cape May, Aug. 9, 1920.

——— The Yellow-throated Warbler at Cape May, N. J. *Ibid.,* p. 591.—One male shot, July 13, 1920.

——— King Eider in Pennsylvania. *Auk,* April, 1921, p. 270.—Four taken near Harrisburg, Pa., Dec. 7, 1920.

——— Review of Kalmbach's "Economic Value of the Starling in the United States." *Ibid.,* p. 295.—Cites additional data on its appearance in Pennsylvania and New Jersey.

STUART, GEO. H., 3RD. Nesting of the Little Black Rail in Atlantic County, N. J. *Auk,* April, 1920, p. 292.—July 4, 1919, with set of eggs.

URNER, C. A. Unusual Visitors at Elizabeth, N. J. *Auk,* Jan., 1921, p. 120.—Twelve important records.

——— Whistling Swan—A Correction. *Auk,* April, 1921, p. 273.—Was the Mute Swan.

——— Egret and Little Blue Herons at Elizabeth, N. J. *Auk,* Oct., 1921, p. 598.—July 31, 1921, and records for other species.

——— Short-eared Owl Nesting at Elizabeth, N. J. *Auk,* Oct., 1921, p. 602.

OFFICERS AND MEMBERS

OF THE

Delaware Valley Ornithological Club.

1923.*

JAMES A. G. REHN, *President.*
GEORGE H. STUART, 3rd, *Vice-President.*
SAMUEL C. PALMER, *Treasurer,* Swarthmore, Pa.
JULIAN K. POTTER, *Secretary,* 6th and Bailey Sts., Camden, N. J.

ACTIVE MEMBERS.

BAILY, WILLIAM L., Ardmore, Pa. ..... Founder
CARTER, JOHN D., Lansdowne, Del. Co., Pa. ..... †1900
DEHAVEN, I. NORRIS, Ardmore, Pa. 1891
EMLEN, ARTHUR C., Awbury, Germantown, Phila. 1897
FOWLER, HENRY W., Langhorne, Pa. 1894
HUBER, WHARTON, 225 St. Marks Square, Phila., Pa. 1923
HUGHES, WM. E., M.D., 3954 Chestnut St., Phila. 1891
MOORE, ROBERT T., Haddonfield, N. J. 1897
PALMER, S. C., PH.D., Swarthmore College, Swarthmore, Pa. 1899
PENNOCK, CHARLES J., Kennett Square, Pa. 1895
POTTER, JULIAN K., Sixth and Bailey Sts., Camden, N. J. 1911
PUMYEA, NELSON DEW., Mt. Holly, N. J. 1920
REHN, JAMES A. G., 6026 Walton St., Phila., Pa. 1899
RHOADS, SAMUEL N., Haddonfield, N. J. ..... Founder
ROBERTS, WILLIAM E., 207 McKinley Ave., Lansdowne, Pa. 1901
SCOVILLE, SAMUEL, JR., Pennsylvania Bldg., Phila., Pa. 1907
SHRYOCK, WILLIAM A., 225 S. Sixth St., Phila., Pa. 1891
STONE, WITMER, SC.D., Academy of Natural Sciences, Phila. ..... Founder
STREET, J. FLETCHER, Beverly, N. J. 1903
STUART, GEO. H., 3RD, Girard Trust Company, Phila., Pa. 1910
TROTTER, SPENCER, M.D., Swarthmore College, Del. Co., Pa. ..... Founder
WEYGANDT, CORNELIUS, PH.D., Wissahickon Ave. below Frank St., Germantown, Phila. 1891

* Corrected to May 1, 1923.
† Date indicates year of election to Club.

ASSOCIATE MEMBERS.

ALLEN, A. REGINALD, JR., 2013 Spruce St., Phila., Pa. 1918
BACON, FRANCIS L., 236 Winona Ave., Germantown, Phila. 1917
BAIRD, DAVID G., Beverly, N. J. 1913
BALL, J. P., M.D., Frankford, Phila., Pa. 1910
BARTRAM, EDWIN B., Bushkill, Pa. 1908
BEATTY, GEORGE, JR., Merion, Pa. 1911
BECK, PROF. H. H., Franklin and Marshall College, Lancaster, Pa... 1917
BENNERS, GEORGE B., 278 S. 23rd St., Phila., Pa. 1913
BORNEMAN, HENRY S., 801 Liberty Bldg., Phila., Pa. 1913
BOWMAN, PAUL W., P. O. Box 966, Narberth, Pa. 1923
BUTCHER, HOWARD T., JR., 220 Real Estate Bldg., Phila., Pa. 1920
BYROM, LEWIS S., 127 W. Susquehanna Ave., Phila. 1909
COLLINS, HENRY H., 3RD., Yarrow Ave., Bryn Mawr, Pa. 1923
COOK, FRANKLIN, Seaside Hotel, Atlantic City, N. J. 1919
COOKE, GEORGE J., Ambler, Pa. 1916
COPE, FRANCIS R., JR., E. Washington Lane, Germantown, Phila... 1895
CULVER, DELOS E., Addingham, Pa. 1913
ELLIS, J. M. MACKINNON, Swarthmore, Pa. 1917
ERSKINE, RICHARD, Wenonah, N. J. 1916
EVANS, JOSEPH S., Marlton, N. J. 1913
EVANS, WILLIAM B., Moorestown, N. J. 1898
FORSYTH, GEORGE, Route 4, R. F. D., West Chester, Pa. 1891
FOSTER, FRANK B., Haverford, Pa. 1912
FOX, GEORGE B., Phila. Sketch Club, 235 S. Camac St., Phila., Pa... 1921
FUGUET, STEPHEN, 1027 Spruce St., Phila. 1911
GAEDE, HENRY, 3101 N. 10th St., Phila., Pa. 1923
GILLEN, THOS. S., Ambler, Pa. 1921
GILLEN, JAMES R., Ambler, Pa. 1921
GILLESPIE, JOHN A., 313 Sharp Ave., Glenolden, Pa. 1922
GUMMERE, DR. R. M., Wm. Penn Charter School, Phila., Pa. 1922
HAGAR, ARTHUR F., Park Hill Ave., Langhorne, Pa. 1906
HAINES, SAMUEL S., M.D., 124 E. Main St., Moorestown, N. J. 1901
HAINES, ROBERT, E. Main St., Moorestown, N. J. 1923
HALLETT, GEORGE H., JR., 199 Owens Ave., Lansdowne, Pa. 1911
HANNUM, WILLIAM E., Chester Heights, Pa. 1901
HARRISON, H. M., 319 Penn St., Camden, N. J. 1920
HICKS, PHILIP M., Swarthmore College, Pa. 1922
HILL, THOMAS R., 409 Chestnut St., Phila., Pa. 1908
HOTTLE, HOWARD P., 437 Hansbury St., Germantown, Phila., Pa... 1918
HUTCHINSON, JAMES, 935 S. Paxson St., Phila., Pa. 1923
JAY, WILLIAM, 12 Westview Ave., Germantown, Phila. 1922
JUSTICE, WILLIAM W., JR., Netherfield, Willow Grove P. O., Pa.... 1893
JACK, CHARLES S., D.D.S., 1533 Locust St., Phila., Pa. 1906
KEIGHTON, WALTER B., 307 Yale Ave., Swarthmore, Pa. 1921

KUSER, JOHN DRYDEN, Bernardsville, N. J. 1911
LEIGHTON, ALEX. H., The Hedges, Rosemont, Pa. 1922
LEWIS, SHIPPEN, 1820 Pine St., Phila., Pa. 1912
LINTON, M. ALBERT, 409 Chestnut St., Phila., Pa. 1905
LIVINGSTONE, PHILIP A., Box 966, Narberth, Pa. 1922
LOCKWOOD, PROF. D. F., Walnut Lane, Haverford, Pa. 1919
LODGE, JOSEPH B., 3340 N. 16th St., Phila., Pa. 1900
LOWER, GEORGE G., Henchel Road, Somerton, Phila., Pa. 1922
LONGNECKER, PARKE L., D.D.S., 2015 Chestnut St., Phila., Pa. 1910
MCCADDEN, DAVID N., 5039 Osage Ave., Phila., Pa. 1892
MCCALL, WILLIAM W., JR., 4056 Chestnut St., Phila., Pa. 1915
MCCANN, H. D., Paoli, Pa. 1923
MCDANIEL, W. G., 1325 Erie Ave., Phila., Pa. 1919
MCMURTRIE, RICHARD C., 300 W. Highland Ave., Chestnut Hill 1904
MCMULLEN, T. G., 551 Bailey St., Camden, N. J. 1920
MAHY, G. GORDON, JR., 4809 Warrington Ave., Phila., Pa. 1918
MAYER, CHARLES, 107 E. Stewart St., Lansdowne, Pa. 1922
MERCER, E. LEROY, M.D., Swarthmore, Pa. 1916
MERCUR, JAMES WATTS, JR., Wallingford, Pa. 1914
MEYERS, F. GUY, 1218 Chestnut St., Phila., Pa. 1896
MILLER, ISAAC P., 409 Chestnut St., Phila., Pa. 1907
MILLER, RICHARD F., 2073 E. Tioga St., Phila., Pa. 1908
MITCHELL, DR. B. W., 4326 Pine St., Phila., Pa. 1914
MORGAN, S. ROWLAND, Willow Grove Ave., Chestnut Hill, Phila., Pa. 1923
NORRIS, EDWARD, St. Martins, Chestnut Hill, Phila. 1914
NORRIS, J. PARKER, JR., 2120 Pine St., Phila., Pa. 1916
PACKER, JESSE E., M.D., Newtown, Pa. 1911
PALMER, ARTHUR W., Haverford, Pa. 1921
PALMER, MORROW, 3610 Hamilton St., Phila., Pa. 1920
PANGBURN, C. H., 299 Madison Ave., N. Y. City 1919
PARKER, HARRY E., Southampton, Pa. 1915
PEPPER, WILLIAM, M.D., 1811 Spruce St., Phila., Pa. 1912
RHOADS, CHARLES J., 1914 S. Rittenhouse Sq., Phila., Pa. 1914
ROBINSON, ANTHONY W., 409 Chestnut St., Phila., Pa. 1898
ROLAND, CONRAD K., 1208 DeKalb St., Norristown, Pa. 1917
SCHAUNESEE, RUDOLPHE MAYER DE, 115 Chestnut St., Phila., Pa. .. 1922
SCHELL, JOHN W., Drexel Building, Phila., Pa. 1917
SCHEUING, WILLIAM B., 317 N. 63rd St., Phila., Pa. 1893
SCOVILLE, GURDON T., 415 Lancaster Ave., Haverford, Pa. 1919
SELLIEZ, EDWARD A., Box 469, Phila., Pa. 1902
SERRILL, WILLIAM J., 1401 Arch St., Phila., Pa. 1891
SHERRERD, DONALD, 133 Euclid Ave., Haddonfield, N. J. 1913
SHORTERS, S. I., Girard College, Phila., Pa. 1921
SMITH, LOUIS IRVIN, JR., 3908 Chestnut St., Phila., Pa. 1901
SPECK, DR. FRANK, Swarthmore, Pa. 1920
SPENCER, THEODORE, JR., Haverford, Pa. 1916

STYER, J. FRANKLIN, Concordville, Pa. 1917
SUDDERS, JOSEPH C., 211 W. Tabor St., Olney, Pa. 1910
TATNALL, SAMUEL A., 409 Chestnut St., Phila., Pa. 1910
TATUM, JOSEPH W., Audubon, N. J. 1892
THOWLES, H. L., 765 Broad St., Newark, N. J. 1922
TOBIAS, C. E., JR., 5232 Knox St., Germantown, Phila., Pa. 1919
TOMLIN, F. H., D.D.S., Haddonfield, N. J. 1909
TROTH, HENRY, 1814 Chestnut St., Phila., Pa. 1922
TROTTER, WILLIAM H., Chestnut Hill, Phila., Pa. 1899
UNDERDOWN, HENRY T., 409 Chestnut St., Phila., Pa. 1918
VOELKER, CHARLES A., Aldan, Delaware Co., Pa. .....Founder
VOSBURG, PAUL, 263 City Hall, Phila., Pa. 1905
WAY, ASA P., Lansdowne, Pa. 1919
WHEELER, PROF. A. L., Bryn Mawr, Pa. 1905
WHITAKER, JAMES L., Cedar Grove, Frankford, Phila., Pa. 1904
WILDMAN, EDWARD L., 4331 Osage Avenue, Phila., Pa. 1914
WOOD, GEORGE B., M.D., 1830 Spruce St., Phila., Pa. 1917
WOOLMAN, EDWARD, Haverford, Pa. 1915
WOOLMAN, EDWARD W., 123 Glen Road, Ardmore, Pa. 1902
YODER, WILLIAM, 4510 N. Carlisle St., Phila., Pa. 1923

HONORARY MEMBER.

ABBOTT, WILLIAM LOUIS, M.D., 400 So. 15th St., Phila., Pa. 1912

CORRESPONDING MEMBERS.

AUSTIN, J. HAROLD, M.D., New York City 1903
BAKER, CHARLES H., Verona, Allegheny Co., Pa. 1900
BAYNARD, O. E., Clearwater, Fla. 1911
BEANS, THOMAS J., Moorestown, N. J. 1895
BEHR, HERMAN, Lansdale, Pa. 1897
BEHR, OTTO, Lopez, Sullivan Co., Pa. 1897
BOWDISH, B. S., Demarest, N. J. 1913
BULLER, W. H., Marietta, Lancaster Co., Pa. 1895
BURLEIGH, THOMAS D., Georgia 1917
BUVINGER, CHARLES W., M.D., Newark, N. J. 1900
COGGINS, HERBERT L., 463 14th St., Oakland, Cal. 1897
COLE, STIRLING W., Cape May Court House, N. J. 1904
DICKEY, SAMUEL S., Waynesburg, Pa. 1917
EASTMAN, MAJOR F. B., U. S. A., Ft. Leavenworth, Kans. 1898
EHINGER, DR. C. E., Keokuk, Iowa 1909
FARR, MARCUS S., Princeton, N. J. 1901
FRY, REV. HENRY J., Mt. Vernon, N. Y. 1915
GITHENS, ALFRED M., New York City, N. Y. 1895
GRAHAM, HARRY L., Redlands, Cal. 1897

GROSH, ALLEN H., Washington, D. C. 1900
HAND, H. WALKER, 1002 Washington St., Cape May, N. J. 1900
HARLOW, RICHARD C., State College, Pa. 1904
HUNT, CHRESWELL J., Oak Park, Ill. 1902
JACOBS, J. WARREN, Waynesburg, Greene Co., Pa. 1895
KEIM, THOMAS D., Stelton, N. J. 1902
KESTER, RAYMOND, Williamsport, Pa. 1892
LADD, SAMUEL B., Reading, Pa. 1895
LIEBELSPERGER, W. H., Fleetwood, Pa. 1913
LORRILLIERE, PAUL L., Baltimore, Md. 1904
MCREYNOLDS, GEORGE, Doylestown, Pa. 1917
MARX, CAPT. EDW. J. F., Eatson, Pa. 1909
MILLER, WALDRON DEW., Plainfield, N. J. 1900
OTTEMILLER, FREE, 30 N. Pine St., York, Pa. 1917
PEARSON, LEONARD S., Baltimore, Md. 1908
PEET, MAX M., M.D., Ann Arbor, Mich. 1913
PENNELL, HOWARD Y., M.D., Downingtown, Pa. 1894
PHILIPP, P. B., 220 Broadway, New York City 1895
PHILLIPS, A. H., Princeton, N. J. 1895
POOLE, EARL L., Reading, Pa. 1910
REDFIELD, ALFRED C., Cambridge, Mass. 1908
REGAR, H. SEVERN, Norristown, Pa. 1917
RODDY, H. JUSTIN, State Normal School, Millersville, Pa. 1895
ROGERS, CHAS. H., Princeton, N. J. 1905
SHARPLES, ROBERT P, West Chester, Pa. 1906
SILVESTER, CAPT. C. F., Princeton, N. J. 1901
SIMPSON, R. B., Warren, Warren Co., Pa. 1907
SORENSEN, FREDERICK, Chalmersgarten, Gothenburg, Sweden 1900
SPEATH, REYNOLD A., New Haven, Conn. 1901
STACK, FREDERICK W., Doubleday, Page & Co., New York City.... 1905
STONE, HUGH E., Coatesville, Pa. 1895
TODD, W. E. CLYDE, Carnegie Museum, Pittsburgh, Pa. 1895
WARRINGTON, HENRY, San Francisco, Cal. 1896
WHITAKER, WILLIAM L., Ada, Okla. 1893
WISLER, J. JAY, Columbia, Pa. 1904
YOUNG, ROBERT T., PH.D., State University, N. Dakota 1892

DECEASED MEMBERS.

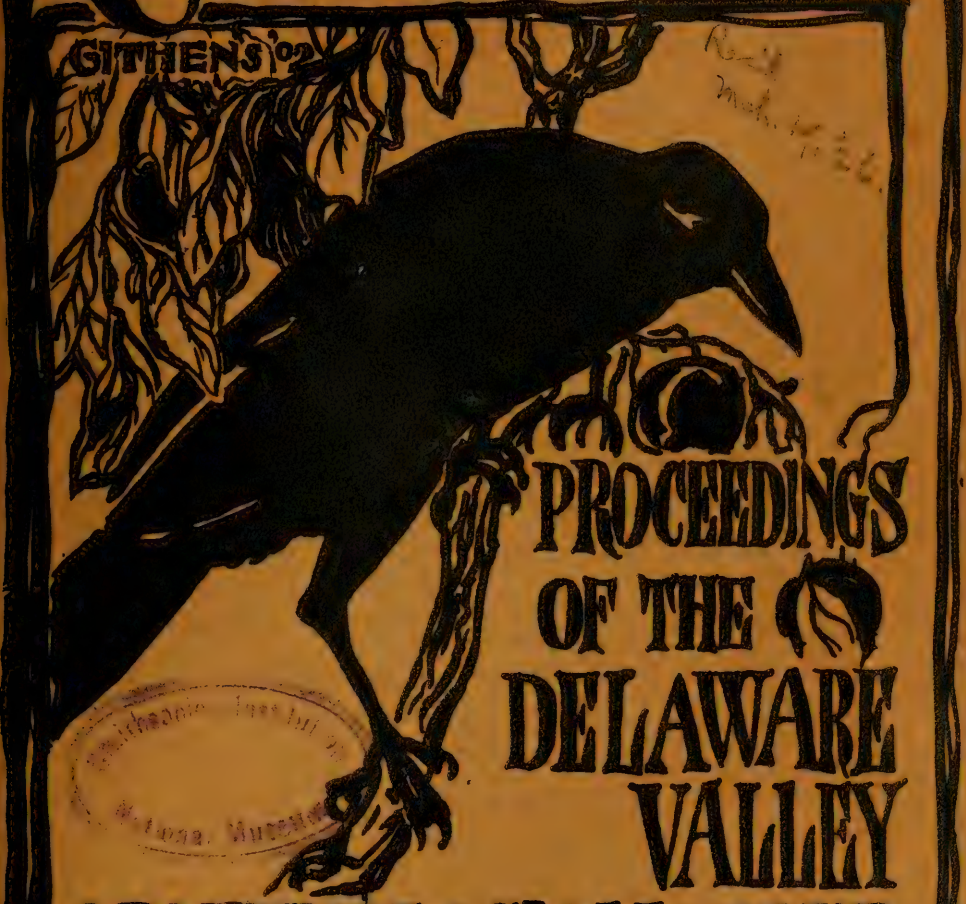
Died.

BENNERS, LIEUTENANT ARCHIBALD, Associate Member.....July 3, 1918
BROWN, JOHN FARNUM, Active Member.....May 13, 1894
BROWN, STEWARDSON, Active Member .....March 14, 1921
BUSH, WALTER D., Corresponding Member .....Aug. 11, 1904
CRISPIN, WILLIAM B., Corresponding Member .....May 9, 1913
DETWILER, JOHN W., M.D., Corresponding Member .....Sept. 26, 1898
EVANS, ERNEST M., Associate Member.....June 29, 1911

FARQUHAR, ARTHUR, Associate Member .....Feb. 21, 1920
GRIFFITHS, BARTRAM W., Associate Member .....Dec. 21, 1916
HALES, HENRY T., Corresponding Member .....Nov. 6, 1913
HOLMES, LARUE K., Corresponding Member .....May 10, 1900
HOOPES, JOSIAH, Corresponding Member .....Jan. 16, 1904
JACKSON, THOMAS H., Corresponding Member .....Feb. 27, 1922
KOCH, AUGUST, Corresponding Member .....Feb. 15, 1907
MOORE, GILBERT H., Associate Member .....May 28, 1899
MORRIS, GEORGE SPENCER, Active Member .....April 12, 1922
ONDERDONK, ELMER, Associate Member .....Sept. 4, 1913
OWEN, FREDERICK N., Associate Member .....Dec. 27, 1905
NEWBOLD, WILLIAM HENRY, Associate Member .....May 25, 1917
PATTERSON, WILLIAM, Corresponding Member .....Aug. 27, 1900
PLATT, CHAS., 3RD, Associate Member .....Aug. 21, 1918
RAUB, M. W., M.D., Corresponding Member .....Aug. 8, 1914
RAWLE, FRANCIS W., Associate Member .....June 12, 1911
SEISS, C. FEW, Associate Member .....Sept. 5, 1915
SHEPPARD, EDWIN, Associate Member .....April 7, 1904
SMITH, WILLIAM W., Associate Member .....July 3, 1892
WELLES, CHARLES S., Associate Member .....Feb. 24, 1914
WERNER, WILLIAM H., Corresponding Member .....May 13, 1912
WHITAKER, ALBERT, Associate Member .....Nov., 1920
WOODHOUSE, SAMUEL W., M.D., Honorary Member .....Oct. 23, 1904
WRIGHT, SAMUEL, Active Member .....Jan. 18, 1917
WINDLE, FRANCIS, Associate Member .....Feb. 24, 1917

CASSINIA

A BIRD ANNUAL



PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB OF PHILADELPHIA

1922-1924

ISSUED FEBRUARY, 1926

CASSINIA

An Annual Devoted to the Ornithology of Pennsylvania, New Jersey, and Delaware

---

CONTENTS 1922-1924

		PAGE
George Spencer Morris (*Frontispiece portrait*)	WITMER STONE	1
Isaac Norris DeHaven (*Portrait*)	WITMER STONE	6
A Season's Study of Some of our Water Birds	JULIAN K. POTTER	10
Report on the Spring Migration 1922–24		21
Abstract of the Proceedings of the D. V. O. C. 1922–1924		53
Bibliography 1922–24		67
Club Notes		77
Officers and Members of the Delaware Ornithological Club, 1926		81

PUBLICATIONS OF THE D. V. O. C.

The Birds of Eastern Pennylvania and New Jersey, by Witmer Stone, pp. 176 with two maps and portrait of Alex. Wilson.
One Dollar and a half. (Post paid, $1.62)

Abstract of Proceedings, Full Set Nos. I–IV. (1890–1900) pp. 98, Fifty cents

Cassinia, published annually beginning with 1901; comprising papers relating to the Ornithology of Pennsylvania, New Jersey and Delaware, and an abstract of the proceedings of the Club. Edited beginning with No. XXVI, 1916, by Wharton Huber. Subscription price One dollar

Back numbers of most issues still obtainable at subscription prices.

Address Delaware Valley Ornithological Club,
Care Academy of Natural Sciences,
Logan Square, Philadelphia.

Contributed articles, books, and all publications should be sent to Wharton Huber, Academy of Natural Sciences, Logan Square, Philadelphia, Pa.

Publication Committee

WITMER STONE, *Chairman*

SAMUEL C. PALMER WHARTON HUBER SPENCER TROTTER.

George Spencer Morris.

CASSINIA

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB

No. XXV PHILADELPHIA, PA. 1922–24

George Spencer Morris

BY WITMER STONE

Of the seven young men who in 1890 organized the Delaware Valley Ornithological Club, George Spencer Morris, although the youngest was excelled by none in his devotion to the interests and welfare of the society, and to the end of his life the Club was one of his chief interests. He served as Secretary and President and on all the important committees, and in every Club activity he was in the forefront, helpful, generous and loyal in attendance both at meetings and on field trips, so that what we have accomplished, and what position we have attained today are in no small degree due to his energy and devotion.

Morris was born at Olney, Philadelphia on July 11, 1867, the son of Samuel Morris and Lydia Spencer both members of the Society of Friends of which the former was a minister of note. Through his father he traced his ancestry direct to Anthony Morris (1654–1721) who came from England in 1682 to join a colony of Friends at Burlington, N. J., and who, on his way up the Delaware, passed the site of the future city of Philadelphia to which he returned a few years later and became Mayor, as did his son Anthony. Among the other ancestors in direct line were Capt. Samuel Morris, who signed the non-importation act and commanded the Philadelphia Troop of Light Horse in the

Revolution and Samuel B. Morris, grandfather of George Spencer, who was one of the founders of Haverford College.

On his mother's side George was connected with Edward Harris of Moorestown, N. J., friend and patron of Audubon.

As we are wont to trace back our characteristics to ancestral sources we would attribute Morris's general interest in natural history to the wide spread love of nature so firmly established at all times in the Society of Friends and nurtured in their schools, while direct influence came to bear upon him through an aunt, Beulah Morris Rhoads, a devout lover of nature especially of plant life. Direct interest in birds came, doubtless, from his love of hunting, the traditions of Harris and Audubon and the possession of a copy of 'The Birds of America' which he read and reread with reverence and admiration.

Morris enjoyed to the full the rough life of the sportsman, the fisherman and the canoeist, but back of all the pleasure of physical exercise and the contest of skill between the hunter and his quarry he saw the beauty of nature through the eyes of the artist and poet. His skill in depicting nature with the brush was notable, and while he did not attempt verse, much of his admirable prose writings are in substance poetry. Doubtless his interest in the outdoors could be traced back to Capt. Samuel Morris who, besides his activities in the Revolution, was a fox hunter and a founder of the State In Schuylkill Fishing Club; while his artistic ability was inherited from his father, who in early life drew and painted with skill.

George attended school at Haddonfield, N. J., and later went to the famous Quaker boarding school at Westtown, Pa., which has developed so many noted naturalists. Following his artistic bent, after graduation, he became an architectural draughtsman and later went into business as an architect, first with William S. Vaux, Jr., and later with Richard Erskine. In 1895 he married Lydia Ellicott, who with one son and four daughters survive him.

All his life he lived on the Morris estate near Crescentville on the Tacony Creek, first in his father's house "Olney" and later in his own home "Birdfield," which he built nearby. Here from early childhood to manhood he acquired his intimate knowledge of the home birds. Every thicket, every stretch of creek, every

piece of woodland became identified in his mind with certain birds or with the capture of certain specimens, constituting as years went by that charm of association—sentimental if you will—which forms such a delightful side of nature study.

Later on with kindred spirits he established camps in the New Jersey pine barrens, one at Catoxen on a branch of the Rancocas Creek, near Medford, where the Club held several field meetings, and the other at Four-ways on the Egg Harbor. Here it was possible to live the life of the back woods whenever a day or two could be spared from the activities of business; when trees could be felled, meals cooked over the camp fire, a little game obtained, bird lists made up or the wild creatures of the woods tracked in the winter's snow.

All these things appealed strongly to him and those who have shared such experiences with him will ever recall his keen enjoyment, his delightful companionship, his generous disposition, his lovable personality..

Morris took the responsibilities of life seriously. He was an active member of the Society of Friends, and in many ways contributed to the welfare and happiness of others. He was particularly interested in the proper training of boys and organized a boys' club at his home, where neighborhood lads were aided in developing an interest in nature and outdoor sports and in proper living. He was also a director of the Boy Scouts of Philadelphia and Vice President of the Philadelphia Sketch Club. He became an Associate of the American Ornithologists' Union in 1887, and was chosen a Member in 1903. He joined the Academy of Natural Sciences of Philadelphia in 1890, was elected to the Council in 1913 and Curator in 1921 while he was Vice Director of the Ornithological Section from its organization in 1891. In the D. V. O. C. he was Secretary, Sept. 1891–Jan. 1892, and Oct. 1892–Jan. 1893, President, 1893–1894, and chairman of the Publication Committee.

Besides his bird studies on the home acres at Olney, Morris spent much time in early life at Haddonfield, N. J., where lived his aunt Beulah Rhoads and her step-son Samuel N. Rhoads. The latter, a few years his senior, shared many of his early ornithological experiences. Together they visited Beach Haven, N. J., and

made collections of the sea birds just before the millinery slaughter all but exterminated them, and later Morris was a regular visitor to Cape Charles, Va., where wild life was still largely undisturbed, and at Eaglesmere in the mountains of Pennsylvania. In 1889, yielding to the urge for wider fields, he spent some months in Florida in the vicinity of Tampa Bay and made the acquaintance of many birds entirely new to him, and finally in 1892, he, with Rhoads and J. W. Evans, visited Washington and British Columbia, collecting mainly on Puget Sound and American Lake. A trip to England at the time of his marriage in 1895, gave him personal acquaintance with the birds of Old England, which he knew well from literature, and in later years, canoe trips through the wilder streams of Maryland and Virginia were his delight. Here he found the Carolina Wrens in all their glory and the golden Prothonotary Warblers flashing among the cypress swamps.

While a keen field student, the gun always appealed to Morris rather than the glass as the proper weapon for the ornithologist and he could not picture his favorite Audubon with a pair of binoculars. At the same time he was a very careful and moderate collector, made no attempt to secure large series and was heartily in sympathy with every effort for bird protection serving as a director of the Pennsylvania Audubon Society.

While Morris wrote well he published but little, most of his writings appearing in 'Cassinia' in the maintenance of which he took great interest. In 1895 he published 'Notes and Extracts from a Letter of Edward Harris' in 'The Auk'; while on his return from the Florida trip in 1890 he published an account of it in 'The Student,' and to 'Recreation' for April 1910 he contributed 'A Flood-water Cruise through a Cypress Swamp.' He wrote a number of papers dealing with outdoor life and bird study which he read before the Club or other societies but which he never published, among the best of which are the ten bird biographies which he contributed to the Club's proposed work on the 'Birds of the Delaware Valley.'

To those of us who had been so closely associated with him it was sad to see the approach of the illness that eventually caused his death, and we missed him at the Club meetings when he was ompelled to spend his last winters in the milder climate of Florida.

His interest in bird life continued, however, and we received most interesting letters describing the winter birds of Miami.

He remained in Philadelphia for the meeting of the American Ornithologists' Union in November 1921, and, left for Miami early in the following month. His condition in the spring became suddenly worse, and he returned early in April, reaching home just as the northern spring was at its best and the woods full of bird song and blossoming plants. He spoke to me of this and of all the beauties of his home surroundings and after a few days, on April 12, he passed away, happy that he had been able to return to the spot with which his entire life had been so intimately identified.

Isaac Norris DeHaven

BY WITMER STONE

When the Club first began to hold its meetings at the Academy of Natural Sciences, short accounts of the proceedings were published in the daily papers with the idea of attracting the attention of persons interested in bird study who might care to join our organization.

Among the first to respond was Isaac Norris DeHaven. The fact that he was as unknown to us as we were to him is only an illustration of how individuals interested in the study of nature will carry on their work alone, within easy reach of one another yet without the chance happening which might have brought them together. In constituting that bond of union—that means of communication between kindred spirits—lies perhaps the most notable service that the Club has rendered.

DeHaven was older than the twelve of us who constituted the Club when he joined it on February 16, 1891, being then a man of forty-four years of age, but none of us excelled him in enthusiasm or energy, and the Club recognized his interest by electing him President for the years 1897–98. He was then accustomed to take week-end trips to Atlantic City, N. J., where he maintained a cat boat, the 'Widgeon,' and we were soon enjoying the hospitality of this little craft and her skipper at all seasons of the year. Now we were stalking sandpipers, mayhap, on the broad salt marshes in midsummer, lying out in the skiff in the bitter cold of winter waiting for passing Black Ducks, or perhaps in early spring scouring the strip of woodland that then lay back of Chelsea for Gnatcatchers or moulting Myrtle Warblers, or in autumn collecting series of Sharp-tailed Sparrows in search of the rare Nelson's and Acadian Finches that now and then fell to our guns.

Then in the cozy cabin at night, perhaps with wind and rain outside and always the sound of water lapping against the hull, we enjoyed the products of "Norrie's" culinary skill and slept the sleep of the just on mattress bunks which rolled up under the deck in the day time. Many a savory meal we had of sea bass

I. N. DeHaven.

and weak fish, and clam chowder, and mudhen and sandpiper stew, and once a carcass of a Blue Heron which we had just skinned went into the pot with most satisfactory results. DeHaven was not a sound sleeper and on more than one occasion I awoke to find him shifting the anchor or sitting on the deck listening to the Mudhens cackling in the sedge, or I have been aroused by a shake of the shoulder to see a Short-eared Owl perched on the wheel or to hear the Night Herons croaking through the darkness overhead.

"Norrie" at once became our authority on the water fowl and everything relating to feathered game, while from us he gathered information on the occurrence of certain of the small birds which, in his concentration on game birds, he had not been aware of. He had been brought up on a copy of Wilson and once he had become acquainted with the subsequently described Ipswich Sparrow, his keen perception recognized that the bird described by Wilson as the male of the Savannah Sparrow was in reality this northern species, which comes from Sable Island to the dunes of the New Jersey coast in winter. This fact had been overlooked by all other ornithologists and it carried the history of the species back some sixty years.

Isaac Norris DeHaven was born in Philadelphia, July 30, 1847, the son of Lieut. Commander Edwin J. DeHaven, U. S. N. and Mary Norris DaCosta. Shortly after his birth his parents removed to Washington D. C., where they lived until May, 1850, when his father was placed in command of the First Grinnell expedition in search of Sir John Franklin, when "Norrie" returned to Philadelphia with his mother until the expedition came back in August, 1851. He then lived for two years on a farm in Cooper's Creek, N. J., and then for a short time in Baltimore, Md., after which he resided in Philadelphia in winter and New Jersey in the summer until moving to Ardmore, where he resided with his two sisters at the time he joined the Club.

At an early age he was much interested in nature and in machinery. He was always a great reader and devoured every kind of book that he came across, coming into possession of many works on birds and animals and on hunting and fishing. As a boy he often played at being an Indian and fashioned for himself all

sorts of Indian weapons and ornaments. He was educated at private schools in Philadelphia, and at the school of the late Henry D. Gregory he made the acquaintance of the late Charles H. Baker and both being interested in animal life they became fast friends and together prepared many specimens of birds' skeletons and skulls, and collected minerals, etc. Through DeHaven, Baker later became a Correspondent of the Club, and their friendship was unbroken until the death of Mr. Baker a few months before DeHaven passed away. He belonged a little later to a club that went camping during the holidays in Huntington County in the mountains of Pennsylvania, and here he met the artist, Arthur B. Frost, who became a life-long friend and spent many days with him on the 'Widgeon' in the waters about Atlantic City.

At one time DeHaven prepared to enter the naval school at Newport but owing to the effects of an attack of typhoid fever he failed in the physical examination, although he passed in all the others. He then studied mechanics in the machine shops, specializing on stationary and marine engines and studying also at the Franklin Institute where he met William H. Thorne, with whom he later formed a partnership and with whom he exhibited an immense lathe of their construction at the Centennial Exposition. The depression in the iron business a year or two later forced them as well as many others out of business and DeHaven entered Rhiele Bros.' shops as a draughtsman, going from there to the shops of William Sellers where he held important positions until he took charge of what developed into the Overbrook Steam Heating Co., where he continued until his retirement a few years before his death, which occurred on March 2, 1924, after a year or more of ill health.

As years passed on and the labor attendant on the care and manipulation of the boat began to tell, while the surroundings at the shore were not what they used to be, he sold the 'Widgeon' and became an ardent devotee of the game of Golf. His interest in sport however, was still maintained and every autumn he repaired to the Virginia and North Carolina coasts where duck shooting was more attractive than on the Atlantic City waters. Some of these trips were to Skidmore's at Cape Charles, made

famous in our Club's annals by the accounts of George Morris, who first introduced DeHaven to this delectable spot. Later on he purchased this island and again entertained members of the Club at a cabin which he had erected there. Here he indulged his ornithological interests at times when game was not in season, adding many interesting specimens to his collection, which at his request has been presented to the Academy by his sisters, and now forms part of the local study series which is made up of the collections of many other members of the Club with whom DeHaven was closely associated.

He joined the Academy in 1896 and used to attend the meetings regularly in the old days. I learn from his sister, who has furnished the data on his early life, that it had always been his ambition as a young man to become eligible to membership in this institution to which his grandfather, John C. DaCosta, had belonged. He was an associate of the American Ornithologists' Union from 1893 to 1908, and contributed a note on Brunnich's Murre at Cape Charles, Va., to 'The Auk' in 1896, while he recorded a number of notes on birds and game to 'Forest and Stream' as well as to 'Cassinia,' though he preferred to place his interesting observations on record by verbally reporting them to the meetings rather than by writing them out for publication.

DeHaven's energy and enthusiasm were contagious. We can picture him in memory, keen with delight as he pulled in weak fish one after another as he lay in his skiff at the exact spot in the channel where his minute knowledge of tides and water told him was the right place; or striding across the brown marshes in pursuit of small marsh sparrows which his unerring gun brought down in ample series; or seeking out the nests of Laughing Gulls with shouts of exultation; and then we can recall his deep booming voice at the Club meetings, as he reviewed the results of our field work at the shore for the benefit of those who were not of the party.

The Club has had no more loyal member than "Norrie" DeHaven. To its every interest he gave his aid and to every individual his generous assistance, and the memories of those delightful days on board the 'Widgeon' will linger as long as life lasts in the minds of those of us who were privileged to share them with him.

A Season's Study of Some of Our Water Birds

BY JULIAN K. POTTER

To introduce shop, the identification of some of the rarer and more difficult birds, which are strikingly similar to familiar species, might be likened to the detection of counterfeit notes. The bank teller picks up a handful of notes, runs rapidly through them and suddenly through sight, feeling, or intuition he becomes suspicious of one of them. Close examination proves it to be a counterfeit. To the depositor who has been victimized and has witnessed the detection, the teller's ability seems most uncanny and he immediately desires to know how it is done. This is sometimes most difficult to explain but one thing is certain, this ability is acquired only by long practice and through a perfect knowledge of the color, feel, design and clean cut appearance of every detail of a good note. As sight and feeling enter largely into the detection of a counterfeit, in a like manner sight and hearing enter into the detection and identification of similar but unusual birds. In both cases the senses are aided very materially by experience and aptitude.

Those who were on the Memorial Day field trip to Cape May (1923) very well remember how we became suspicious of a certain Yellow Warbler song and in searching for the author we actually saw a Yellow Warbler, but fortunately almost at the same instant Gillespie caught sight of a Warbler with a gray back which proved to be the author of the song and a Yellow-throated Warbler. It was only by being thoroughly familiar with the song of the Yellow Warbler in the first place, and the glimpse of the gray back of the bird by one man, in the second place, that led to the identification of the straggler.

Again the same day we came across what to all appearances was an ordinary Kingbird. Close examination showed the bird had no white band on the end of the tail, other details were discovered which quickly proved the bird without a doubt to be a Gray Kingbird. Only a thorough knowledge of the appearance of our Kingbird led to this interesting discovery.

In identifying and studying the shore birds, experience and a thorough knowledge of this class of birds, especially the smaller members, is more necessary than for any other group. The obvious reason being the striking similarity in size, coloration, actions, and even notes. The Pectoral, White-rumped, Baird's, Semi-palmated and Least Sandpipers and the Sanderling are really very similar and their identification consequently difficult.

During 1923, of over 200 species of birds observed by me, 24 were shore birds, which is a larger number than I ever before noted in any one year. This I think is due to two reasons—an unusual abundance of these birds this year and a more than ordinary amount of time spent in the field, especially along the shore, though no less than 13 species were observed at Camden.

From May 30 to September 30, I have taken some twenty trips (not counting short excursions near home) mostly to the New Jersey coast and eleven different members of the club have taken part in these expeditions though on many I was alone.

The White-rumped Sandpiper was a feature of the Club trip to Cape May on Memorial Day. The bird was spotted on account of slightly superior size among a flock of "Peeps" in the shallow pond near the light-house, but was not identified with certainty until it circled about directly in front of us, showing the white upper tail coverts to perfection. This is the only field mark which can be depended upon for definite identification and can only be seen when the bird is flying directly away from or circling about with its back to the observer. It must be remembered that all the smaller Sandpipers show considerable white on the sides of the rump.

June 17 found J. D. Carter and myself at Brigantine Beach. Compared with the year previous breeding birds were scarce, Least Terns being the only ones equally abundant. Three Skimmers, a few Common Terns and two or three pairs of Piping Plovers were noted. We searched diligently for the nest of the Piping Plover but only succeeded in finding three eggs which had been washed out of a nest. During a brief search back in the marsh, Carter located a deserted Clapper Rail's nest full of eggs. Quite a flock of Knots were seen on the beach at a distance. Knots and Dowitchers might be mistaken for each other but at close

range the long bill and brown back of the Dowitcher compared with the shorter bill and gray back of the Knot make identification easy. The call of the Dowitcher resembles that of the Yellow-legs very much, but sounds to me more rapid and less musical. In a flock of Knots great variation in color is noticeable, grading all the way from the "Robin Snipe" type—with a rusty brown breast, to plain gray birds. This variation in spring plumage is also apparent among the Dowitchers and to a lesser degree among nearly all the shore birds, due to the retention of more or less of the winter plumage and the duller color of the females.

A four days' stay at Cape May, June 18 to 21, yielded Greater Yellow-legs, Semi-palmated Sandpipers and Woodcock. A side trip some miles up the coast to Grassy Sound, June 20, added Knots, Least Sandpipers, Sanderlings, Black-bellied Plover, Turnstones and two Red-backed Sandpipers. The last named were the first I had ever seen on the Jersey coast in the spring. In spring plumage there is little trouble in identifying these birds. The brownish back and black belly being excellent field marks. It would be quite natural to think any Sandpiper with black under parts would be Red-backed. But is it? On one occassion I was going through a flock of "Peeps" searching for strays, when I saw a bird with an unmistakable black belly. My first thought was a Red-backed Sandpiper, but it did not look quite right, and careful investigation revealed the fact that it was a Semi-palmated Sandpiper that had squatted down in some oil and converted itself into quite a semblance of a Red-back. In the fall the Red-back is a different looking bird. The dark under parts are missing. The back is lead gray, and due to this the baymen call it "Lead-back," to distinguish it from Brown-back or "Dowitcher" and Gray-back or "Knot." At all seasons the bird can be told by its slightly decurved bill, if the observer can get close enough to see it. The call of those I have heard closely resembles that of other smaller Sandpipers, approaching the notes of the Sanderling more than any others.

On this occasion two colonies of Common Terns with about 200 birds each, and a colony of Skimmers with about 40 birds were found. Amid the whining of Terns and baying of the Skimmers a sharp musical note was heard resembling the "blink" of an

Oriole. It was the note of the Roseate Tern. To all appearances it had a black bill. The tail was longer and lighter in color than that of the Common Tern. The rosy color of the breast was not distinguishable. In addition to the Oriole-like call, the bird uttered a harsh Tern-like "T-e-a-r." A set of Tern's eggs was also discovered that would have made the eyes of an oologist bulge with excitement. The eggs were plain blue with the exception of one which had faint traces of spots. To make certain that the eggs belonged to a Tern the nest was watched until a Common Tern settled on it.

On a subsequent visit with Dr. Stone, July 8, nearly a hundred Terns' nests were found with eggs—also many eggs which had been washed out of the nest and were found lying about.

Two other trips July 15 and August 5, were taken to this point. Yoder, Gillespie, Keighton and Gaede participating. On the first trip Keighton banded some thirty young Terns that were found hidden in the grass. Though some were able to fly, as proven when released, they seemed to rely on the grass rather than their wings for safety. It was observed that the color of the feet of the young Terns varied greatly, ranging from almost red to light flesh color. On this trip Yoder and Gaede each found a Clapper Rail's nest while searching about in the tall marsh grass for Terns. One contained 10 eggs the other 11. This seemed rather a late date for eggs. On the next trip Gillespie banded 69 Terns and 12 Skimmers. A most amazing habit of the young Skimmer was discovered on this occasion. Some distance down the beach a youngster was seen running. As we started for him he crouched, and as we came up was found to be literally digging himself in. The sand was flying out behind as though propelled by a terrier digging for rats. The Skimmer remained squatting during the operation and his motions might be likened to a duck swimming. Lying in the hole thus made, his back was brought to the level of the surrounding sand and the bird was rendered as nearly invisible as possible. Indeed you might look directly at the bird in this position and miss him entirely.

Hudsonian Curlew were seen on both of these trips. They appeared in flocks resembling ducks both as to the formation of the flock and mode of flight. Their call is a far-reaching, loudly

uttered, rippling pip-pip-pip-pip, and to my ear very closely resembles the mellow bubbling whistle (Forbush) of the Upland Plover. Hudsonian Curlew were extremely common on the coast this year and I never saw so many before.

July 29 found us on the inland waterways back of Brigantine, our object being to visit the well known Skimmer colony there. The colony was found deserted and not a Skimmer was seen all day. However, we had a fine study of a large bunch of shore-birds feeding on an exposed bar—Dowitchers, Knots, Semi-palmated Sandpipers and Sanderlings and learned for the first time that the smaller fry were sometimes little grafters. Two "Peeps" seemed very much interested in the doings of a Dowitcher that had thrust his long bill down to the hilt in the sand. Presently he drew it out and immediately the little Sandpipers darted in and snatched tid-bits either from the bill of the Dowitcher or the edge of the boring. A fine bit of easy picking and an operation of which the Dowitcher seemed quite tolerant.

The expedition that was most productive, of the actual number of water birds noted, was the one taken to Little Beach Island August 19. After having failed to find the Skimmers back of Brigatine July 29, I consulted McMullen as to their whereabouts and was informed that they had all moved over on Little Island, hence the reason for going.

Yoder, Gaede and I left Atlantic City at 7 A. M. Our means of transportation being one of Jake Brown's famous row boats. We knew that it was going to be a long hard pull and I assure you that we were not disappointed in this respect. We carried no map of the puzzling channels, sand bars, shoals, blind bayous, and thoroughfares. I think it safe to say that at no point along the Jersey coast are there more confusing salt marsh areas than back of Brigantine Island, and probably for that very reason it is also one of the very best places for the water birds. Shortly after leaving the dock we spied a shore-bird on Absecon bar. We were undecided as to whether it was a Sanderling or a Knot but thought that it must be a Knot. However, when we had approached quite close we found that it was a Sanderling. The Sanderling is not always an easy bird to make out in the brilliant sunshine of the beach and frequently looks abnormally large,

its plumage, especially in the spring and early summer, is often quite rusty in appearance making the bird look very dark. At a short distance it is not difficult to determine and very easy if one is familiar with the characteristic note of the species, which it invariably utters when rising from the strand. A short distance farther on while rowing along near a sod bank we had a fine view of two Least Sandpipers at very close range, the brown legs of the birds being made out with ease. The Least and Semipalmated Sandpipers are usually a rather difficult problem to solve. Fortunately it is often possible to get pretty close to them and make out the brown legs of the Least and the black legs of Semipalmated. Of these two "Oxeyes" the Sand Oxeye (Semipalmated Sandpiper) seems to be much more common than the Meadow Oxeye (Least Sandpiper). This may be due to the fact that the Semipalmated as a rule keeps more in the open than the Least though they frequently may be found together. In looking at a flock of "peeps" in a salt pond it is an easy matter to overlook the Leasts entirely, for while the Semipalmated Sandpipers are feeding out in the open, the Leasts are liable to be up along the edge and even in the grass surrounding the pond.

After about an hour's row we passed all familiar land marks and out into the water of Grassy Bay and later Little Bay which looked to us to be about the size of the broad Atlantic itself. The sun was shining brightly and heat waves were rising over the meadows and water all about us. Distances as well as objects were very deceiving. Forty Great Blue Herons on a far-away bar to the north, stalked about, as large as Ostriches. The Coast Guard station on Little Island looked about twenty miles off the coast and was finally considered, after a lengthy debate, to be a schooner. Buildings, trees and other objects were all conceded to be buildings and were so numerous on what we believed to be Little Island that we were fully convinced that we had rowed past our objective point and were up opposite Beach Haven. Surely we had done enough rowing to be there and farther, anyway by following the inland waterways we had gone some distance out of our way, yes! we were sure of that! So we turned about and headed toward the eastern shore of the bay. We saw a launch over there and we thought at least some one

on board might tell us how to get to our destination. We had already hailed several skippers but none knew there was such a place as Little Beach Island.

We finally reached the east shore and by some piece of dumb luck happened to strike a gut leading into Little Mud Thoroughfare (the names given to all these waters, navigable and otherwise, were looked up on the map after the trip) and about 1:30 P. M. we landed on Little Island. We hurried toward the beach but even before we got there we knew that McMullen was right, as usual, for a small cloud of Skimmers and Terns was being stirred up by a party from a launch who were walking about in the midst of the colony examining the eggs and young, but as we found, doing them no injury.

There were about 200 adult Skimmers and perhaps 100 young, also a few nests still with eggs. The notes of the young Skimmers flying about were entirely different from the baying calls of the parent birds. It was some time before we located these calls which might be described as a high pitched "cheep." Earlier in the day we had seen a young Skimmer flying about ploughing the main after the manner of his kind though his mandibles were so nearly even that no difference was perceptible. Skimmers do not seem to wander far from their breeding ground. In fact I never remember seeing an adult Skimmer more than three-quarters mile from home during the breeding season nor can I recall our seeing a Skimmer on our coast at other than the breeding season.

We spent about an hour on the Island studying hundreds of Skimmers, Terns, Gulls and shore-birds. We found a Knot with a shot wound in the back unable to fly, a Semi-palmated Sandpiper with a wing shot off, two dead Skimmers and one flying with two shattered primaries hanging from his wing, all no doubt the work of a shore-bird gunner the season for the unprotected species having opened August 15. This incidentally shows the lack of foresight in opening any gunning season while some birds are yet nesting; for the average gunner lacks that love of fair play and sense of justice which would prevent him from taking a crack at almost anything that moves. Soon we were on our way back and presently found to our great discomfort that the coming,

though tough, was not a circumstance to the going. We ventured a short cut through a nameless gut and slipped into Brigantine Inlet where the tide was running out like a mill race. To add to our pleasure the wind came up dead against us. It was utterly impossible to force the boat with oars against the tide and wind. At the suggestion of Yoder we all got out on the sod bank and towed the boat along by the anchor rope. We made about two miles in as many hours this way, but were quite sure if we had not done this we would have spent the night some where in "no man's land," or no man's marsh, to speak more accurately. The wind and tide had now abated somewhat and we were making fair progress when suddenly Gaede with not the least warning announced that he felt sick, and further stated that he had not felt well all day. This was news to us, and bad news for we had depended on his six feet of brawn to a large extent for motive power, and for him to get sick was a calamity indeed. If I only had some water, I thought, I believe I could make him feel better but I had none, the bottle we had brought had been lost overboard early in the day. Then I had a happy thought. I reluctantly pulled an orange out of my pocket that I had been hoarding for emergencies, peeled it, ate half, and reluctantly passed the other half to Gaede. This brightened him up considerably and he took one oar, I took the other, Yoder concocted a rudder out of a small shovel we had for bailing purposes, and we literally pulled for the shore. The shades of night were falling, a flock of Black Ducks flew over-head, Herons passed us bound for evening fishing grounds, flocks of Curlew filed by calling as they passed, many smaller shore birds were active, a small bunch of Pectorals passed near the boat. The scene was attractive but the dock was more interesting, and finally, about 8:30, we reached the wharf after having passed it in the gloom. We lost our water, we missed our train and Yoder lost his iron-bound Reed's 'Bird Guide,' a treasure that always was a part of his bird trips. Iron-bound it really was, bound in sheet iron to keep it intact and ready for all emergencies—except loss. We covered 18 miles by boat, gained a lot of blisters and three severe backaches but we reached our Island and saw the birds, so what did the other trivial matters amount to?

The list and approximate number of the water birds seen on this trip were:

Herring Gull, 30
Laughing Gull, 200
Common Tern, 60
Least Tern, 2
Black Tern, 100
Black Skimmer, 200 and 50 to 100 young
Black Duck, 10
Great Blue Heron, 40
Little Blue Heron, 1
Green Heron, 30
Night Heron, 1
Clapper Rail, 2
Pectoral Sandpiper, 5
Least Sandpiper, 5
Semipalmated Sandpiper, 200
Yellow-legs, 2
Willet, 5
Spotted Sandpiper, 10
Hudsonian Curlew, 100
Sanderling, 10
Dowitcher, 2
Knot, 100
Black-bellied Plover, 10
Killdeer, 1
Semipalmated Plover, 300
Piping Plover, 4
Turnstone, 10

Some time ago I gave an account of Camden's shore-bird meadow. At that time the area covered by water was a square mile in extent, but this is far from the case today, as it has dwindled to one small pond of perhaps half an acre. I was not aware of the existence of this until I happened on it August 24. I had been wandering about regretting the changes that improvements had accomplished when I came upon it; a little pool with a wide muddy rim circled about by water loving plants, hemmed in on all sides by the steep embankments of the filled in area. Just why it had not suffered the fate of the marsh all about was a puzzling question, but there it lay and furthermore the muddy rim was fairly teeming with shore-birds. It was evident they had located this spot with its abundant food supply without difficulty.

I swept my glasses over a flock of small Sandpipers and back again. "What's that?" A small buffy Sandpiper came into the field. It was somewhat larger than the Semi-palmated Sandpipers close by. It was somewhat smaller than the Pectoral Sandpipers just as near. I was certain the bird before me was either a White-rumped or Baird's Sandpiper but was unable to decide that evening as the bird gave no plain view of its rump. August 26 found me at the pond in the morning but the bird was not there, I returned again about noon and found it quietly feeding in almost the

exact location of the previous day. It was very tame and I had no difficulty working up as near as the soft mud would allow, about fifteen feet from the little fellow. I studied it for about two hours and satisfactorily identified it as no other than the Baird's. Most of the time it kept by itself but frequently other Sandpipers approached sometimes within a few inches. The possibility of a White-rump was eliminated by the bird showing that the middle of the rump was dark not only once but several times. Besides being larger than the Semi-palmated the light portions of the feathers of the back were light buff instead of gray. The breast was buff-colored and darker and the line of demarkation between it and the belly more abrupt. From the Pectoral besides being smaller the back and breast appeared lighter. The feathers of the scapulars appeared rounded almost like scales. In most of the smaller Sandpipers they appear pointed, this is not always so much due to the shape of the feathers as to the pointed dark portion next to the shaft. The note resembled that of the Semi-palmated Sandpiper, the legs brownish like a Least.

The bird was last seen August 28. On this date another surprise was in store for me. I was looking at the Baird's when a bunch of small shore-birds appeared coming into the pond, and among them a larger bird dodging about in a most erratic manner much like a Solitary Sandpiper. The group lit close by and I saw almost at once that the large bird was neither a Solitary nor a Yellow-legs but a Stilt Sandpiper. While in general appearance it looked like a Yellow-legs, close examination showed the plumage to be streaked rather than spotted, a light line passed over the eye, a dark streak ran through it. Compared to a Dowitcher feeding nearby, the body of the Stilt looked about the same in size. The bill slightly decurved at the tip was of course much shorter and also noticeably thinner. The legs were much longer and more slender. In color they were brownish. The actions of the bird were quite different from the Yellow-legs. While feeding, the Stilt frequently forced its bill down into the mud until half of the head disappeared. The bird was under observation for a half hour and during that time it did not bob its head once in the characteristic manner of the Yellow-legs or Solitary Sandpiper. No note was heard nor was the bird seen again after

this date. It fed in the shallow water and apparently was an immature bird in gray plumage, no bars could be seen along its sides. The Reed-bird season opened on September 1, and on the night previous a heavy rain covered the mud around the edge of the pond. Either was sufficient reason for the shore-birds to depart for regions unknown.

Water birds noted in and around this pond were:

On August 24, 1923.
Wilson's Snipe (earliest fall record for Camden)
On August 26.
Blue Heron (flying over)
Green Heron
Night Heron
Sora Rail (flushed in grass on edge of pond)
Pectoral Sandpiper
Least Sandpiper
Semi-palmated Sandpiper
Yellow-legs
Greater Yellow-legs (one bird among bunch of Lessers)
Solitary Sandpiper
Spotted Sandpiper
Baird's Sandpiper (first record)
Killdeer
Semi-palmated Plover
On August 28.
Stilt Sandpiper (first record)
Dowitcher (first record for Camden)
On August 30.
Upland Plover in field nearby
On September 3.
Two Blue-winged Teal (first record for Camden)

August is usually a dull month for the bird students yet there is no better time in the whole year for the study of this most interesting group of birds, and no doubt there are many small pools and ponds in the neighborhood of Philadelphia worth keeping an eye on at this time. To secure a good list of water birds means getting out to some favorable locality frequently and as often as possible during August.

Report on Spring Migration for the Years 1922–24

Since its organization in 1890, the D. V. O. C. has devoted much of its attention to the study of bird migration, and since the appearance of the first issue of Cassinia in 1900, a yearly report on the spring migration in eastern Pennsylvania, southern New Jersey and Delaware has been published, with notes on unusual birds, nesting dates etc., covering other parts of the year. Necessarily other ornithologists, not members of the Club, have been enlisted in this work, and each year schedules furnished by the Club for the purpose have been filled in and returned by from 20 to 80 observers.

In the twenty-four years no less than 131 observers have made returns. Of these the following have furnished records for twelve years or more.

	No. of years		No. of years
Wm. L. Baily, Ardmore, Pa.,	23	Mrs. K. R. Styer, Concordville, Pa.,	17
H. Walker Hand, Cape May, N. J.,	23	Rev. Alex. Patman, Foxchase, Pa.,	16
Anna A. Mickle, Moorestown, N. J.	23	Miss Emily R. Thomas, Bryn Mawr, Pa.,	15
Otto Behr, Lopez, Pa.	22	Miss Minnie V. Flynn, Bordentown, N. J.,	15
Richard F. Miller, Bridesburg, Phila.,	22	M. Albert Linton, Moorestown, N. J.,	15
John D. Carter, Lansdowne Pa.,	21	Julian K. Potter, Camden, N. J.,	14
W. W. Fair, Downstown, N. J.,	21	Mrs. Victor Wiremann, Moorestown, N. J.,	13
Wm. J. Serrill, Haverford Pa.,	19	Isaac G. Roberts, West Chester, Pa.,	12
Saml. C. Palmer, Swarthmore, Pa.,	19	Mrs. Norma F. Cromie, Atlantic City, N. J.,	12
Mrs. Alice K. Prince, Vineland, N. J.,	18		

It is doubtful whether any such series of migration record has been kept elsewhere for a limited area. Heretofore tables have been

published each year in CASSINIA, showing the date of first arrival for all the species on our schedule at the stations within the Philadelphia ten-mile radius and for a part of the species at localities farther distant. Study, however, has shown that variation within an area of say twenty miles is more a matter of time devoted to observation and of local conditions than actual progress of migration, and the "first arrival" may just as well be recorded from the most northern station in such an area as from the most southern. The date of "general arrival" in our district, as computed for many years past, is the really important date resulting from the Club's records, and from it comparisons may be made between different years or between this and other regions when similar dates of "general arrival" are computed.

The dates for the numerous individual localities, while absolutely essential for computing the date of "general arrival," are not in themselves of sufficient importance to warrant the expense involved in their publication.

In view of these facts we propose in the future to publish, in one table, the earliest arrival of each species at any station within the Philadelphia ten-mile radius, and the date of "general arrival" for this area; with the addition of all notes on rare species or unusual occurrences as submitted by the entire migration corps. The original return schedules will be kept on file at the Academy of Natural Sciences and are available for study so that special reports may be compiled from them in the future.

We trust that our observers will continue their observations, and make returns as heretofore, and enlist others in the work so that the D. V. O. C. migration record will continue to hold its enviable position.

Date of First Arrival and General Arrival (*i. e.* at half the stations or more), within the Philadelphia Ten Mile Radius for the years 1922, 1923 and 1924.

	1922		1923		1924	
	First seen	General arrival	First seen	General arrival	First seen	General arrival
Canada Goose	Feb. 23		Mar. 4		Mar. 6	
Green Heron	Apr. 12	**Apr. 30**	Apr. 21	**Apr. 22**	Apr. 27	**May 4**
Night Heron	Apr. 20	**Apr. 29**	Apr. 19	**Apr. 21**	Apr. 25	**May 4**
Spotted Sandpiper	Apr. 16	**Apr. 29**	Apr. 22	**Apr. 30**	May 2	**May 4**
Solitary Sandpiper	May 1	**May 7**			May 2	**May 3**
Killdeer	Feb. 20	**Feb. 26**	Feb. 22	**Mar. 2**	Mar. 1	**Mar. 14**
Dove	Feb. 18	**Mar. 10**	Feb. 13	**Mar. 4**	Mar. 9	**Mar. 18**
Osprey	Mar. 12	**Apr. 18**	Apr. 8	**Apr. 8**	Mar. 29	
Turkey Vulture	Mar. 12	**Mar. 26**	Mar. 3	**Mar. 20**	Feb. 16	
Yellow-bill. Cuckoo	May 7	**May 13**	May 6	**May 11**	May 2	**May 4**
Black-bill. Cuckoo	May 10	**May 14**			May 4	**May 6**
Kingfisher	Mar. 9	**Mar. 25**	Mar. 21	**Apr. 1**	Mar. 18	**Mar. 30**
Yel. Bel'd Sapsucker	Apr. 5		Feb. 18	**Apr. 16**	Mar. 30	**Apr. 13**
Red-head. Woodpkr.	May 7	**May 10**	Apr. 30	**May 18**	May 10	**May 13**
Flicker	Feb. 22	**Mar. 18**	Feb. 18	**Mar. 3**	Mar. 16	**Mar. 28**
Whip-poor-will	Apr. 13	**Apr. 16**	May 13		Apr. 27	
Nighthawk	May 11	**May 14**	May 13	**May 14**	May 3	
Chimney Swift	Apr. 13	**Apr. 21**	Apr. 13	**Apr. 21**	Apr. 19	**Apr. 24**
Hummingbird	May 7	**May 9**	Apr. 29	**May 8**	May 4	**May 10**
Kingbird	May 1	**May 7**	May 5	**May 11**	May 3	**May 7**
Crested Flycatcher	May 3	**May 7**	Apr. 28	**May 4**	May 2	**May 3**
Phoebe	Mar. 11	**Mar. 25**	Mar. 16	**Mar. 23**	Mar. 9	**Mar. 30**
Wood Pewee	May 7	**May 18**	May 13	**May 20**	May 3	**May 14**
Acadian Flycatcher	May 11	**May 14**	Apr. 29		May 8	**May 13**
Least Flycatcher	Apr. 29	**May 6**	May 13		Apr. 27	
Bobolink	May 1	**May 8**	May 4	**May 13**	May 4	**May 7**
Cowbird	Mar. 2	**Mar. 25**	Mar. 24	**Mar. 27**	Mar. 4	**Mar. 30**
Red-wing. Blackbird	Feb. 22	**Mar. 2**	Feb. 26	**Mar. 4**	Mar. 4	**Mar. 9**
Meadow Lark	Feb. 19	**Feb. 25**	Mar. 4	**Mar. 13**	Mar. 1	**Mar. 3**
Orchard Oriole	May 4	**May 7**	May 4	**May 5**	May 5	**May 10**
Baltimore Oriole	May 1	**May 7**	May 5	**May 5**	May 3	**May 6**
Rusty Blackbird	Feb. 26		Mar. 11	**Mar.17**	Mar. 10	**Mar. 30**
Purple Grackle	Feb. 19	**Feb. 22**	Feb. 21	**Mar. 2**	Feb. 23	**Mar. 1**
Vesper Sparrow	Mar. 26	**Apr. 3**	Mar. 24	**Apr. 8**	Mar. 12	**Apr. 5**
Savannah Sparrow	Mar. 25		Mar. 18		Mar. 30	
Grasshopper Sparrow	Apr. 21	**May 6**	Apr. 28	**May 6**	Apr. 29	**May 2**
Chipping Sparrow	Mar. 25	**Apr. 6**	Apr. 2	**Apr. 11**	Apr. 8	**Apr. 13**
Field Sparrow	Mar. 12	**Mar. 25**	Mar. 3	**Mar. 21**	Mar. 1	**Mar. 18**
Swamp Sparrow	Apr. 9	**Apr. 16**	Apr. 12	**Apr. 28**	Mar. 23	
Fox Sparrow	Feb. 23	**Feb. 26**	Feb. 3	**Mar. 11**	Mar. 4	**Mar. 20**
Chewink	Apr. 9	**Apr. 19**	Mar. 18	**Apr. 21**	Apr. 12	**Apr. 22**
Rose-br. Grosbeak	May 6	**May 10**	May 5	**May 12**	May 3	**May 7**
Indigo bird	May 6	**May 8**	May 1	**May 13**	May 4	**May 9**
Scarlet Tanager	May 4	**May 9**	May 2	**May 5**	May 3	**May 6**
Purple Martin	Apr. 11	**Apr. 16**	Apr. 6	**Apr. 8**	Apr. 5	**Apr. 12**
Cliff Swallow	May 13					

	1922		1923		1924	
	First seen	General arrival	First seen	General arrival	First seen	General arrival
Barn Swallow	Apr. 15	**Apr. 18**	Apr. 17	**Apr. 28**	Apr. 13	**Apr. 19**
Tree Swallow	Apr. 17	**Apr. 26**	Apr. 26	**Apr. 28**	Apr. 12	**Apr. 19**
Bank Swallow	Apr. 30	**May 8**	Apr. 21	**Apr. 29**	May 4	**May 12**
Rough-wg. Swallow	Apr. 21	**May 7**	Apr. 21	**Apr. 28**	Apr. 25	**May 4**
Cedar Bird	Mar. 15		Mar. 10		Mar. 3	
Red-eyed Vireo	May 4	**May 7**	May 4	**May 6**	May 3	**May 4**
Warbling Vireo	May 1	**May 6**	May 9	**May 15**	May 5	**May 14**
Yellow-thr't Vireo	May 1	**May 9**	May 5	**May 5**	May 3	**May 9**
Solitary Vireo	Apr. 20	**Apr. 24**	Apr. 21	**Apr. 21**	Apr. 21	**Apr. 26**
White-eyed Vireo	Apr. 25	**May 4**	Apr. 28	**May 5**	Apr. 26	**May 4**
Blk. & wht. Warbler	Apr. 22	**Apr. 30**	Apr. 21	**Apr. 28**	Apr. 21	**Apr. 25**
Worm-eating W'blr	May 3	**May 7**	May 12	**May 13**	May 3	**May 3**
Blue-wing Warbler	May 5	**May 6**	May 4	**May 2**	May 2	**May 3**
Parula Warbler	May 3	**May 6**	May 5	**May 5**	May 3	**May 6**
Yellow Warbler	Apr. 22	**Apr. 30**	Apr. 28	**Apr. 29**	Apr. 27	**Apr. 29**
Blk. th't. Blue W'blr	May 1	**May 7**	May 3	**May 5**	Apr. 20	**May 3**
Myrtle Warbler	Mar. 30	**Apr. 12**	Mar. 18	**Apr. 21**	Mar. 29	**Apr. 23**
Magnolia Warbler	May 7	**May 7**	May 5	**May 12**	May 4	**May 13**
Chest.-sided W'blr	May 4	**May 7**	May 4	**May 5**	May 3	**May 4**
Black-poll Warbler	May 6	**May 10**	May 4	**May 6**	May 6	**May 14**
Blackburnian W'blr	May 9	**May 9**	May 5	**May 13**	Apr. 30	**May 12**
Blk.-th't. gr. W'blr	Apr. 27	**Apr. 30**	Apr. 27	**May 1**	Apr. 26	**May 1**
Pine Warbler	Apr. 29		Apr. 17		Apr. 13	
Yellow Palm W'blr	Apr. 4	**Apr. 10**	Apr. 10	**Apr. 15**	Mar. 30	**Apr. 20**
Prairie Warbler			May 3	**May 3**	May 1	**May 3**
Oven-bird	Apr. 29	**Apr. 30**	Apr. 27	**Apr. 29**	Apr. 26	**May 3**
Water Thrush	May 3	**May 6**	Apr. 21	**May 4**	Apr. 26	**May 6**
Kentucky Warbler	May 6	**May 7**	May 6	**May 8**	May 3	**May 4**
Maryl'd Yellow throat	Apr. 16	**Apr. 22**	Apr. 22	**Apr. 28**	Apr. 22	**Apr. 24**
Chat	May 5	**May 7**	May 5	**May 8**	May 4	**May 10**
Canada Warbler	May 7	**May 10**	May 13	**May 13**	May 4	**May 6**
Redstart	Apr. 28	**May 7**	May 2	**May 5**	Apr. 30	**May 3**
Catbird	Apr. 23	**May 2**	Apr. 28	**Apr. 29**	Apr. 26	**May 1**
Brown Thrasher	Apr. 4	**Apr. 13**	Apr. 21	**Apr. 24**	Apr. 21	**Apr. 22**
House Wren	Apr. 16	**Apr. 20**	Apr. 13	**Apr. 22**	Apr. 25	**Apr. 26**
Lg.-bill Marsh Wren	May 7		May 21		May 12	
Ruby-cr'n. Kinglet	Apr. 2	**Apr. 8**	Apr. 7	**Apr. 15**	Apr. 11	**Apr. 16**
Wood Thrush	Apr. 28	**May 3**	Apr. 29	**May 1**	Apr. 24	**Apr. 30**
Wilson's Thrush	May 4	**May 10**	May 4	**May 11**	Apr. 28	**May 6**
Gray-cheek. Thrush	May 9	**May 12**	May 17	**May 20**	May 3	
Olive-back Thrush	May 8	**May 10**	May 10	**May 13**	May 4	**May 5**
Hermit Thrush	Apr. 2	**Apr. 6**	Apr. 2	**Apr. 11**	Apr. 5	**Apr. 11**
Robin	Feb. 10	**Feb. 21**	Feb. 3	**Feb. 26**	Feb. 26	**Mar. 3**
Bluebird	Feb. 20	**Feb. 26**	Feb. 22	**Mar. 3**	Feb. 23	**Mar. 6**

List of Other Species Reported during 1922, and Additional Notes on Species Contained in the Schedule

Autumn Dates Refer to Autumn of 1921 Unless Otherwise Stated.

Horned Grebe, *Colymbus auritus.* Fish House, N. J., April 19 (4) (Potter); Reading, April 4 (3), 14 (2) (Poole); Westtown, April 15 (Carter).

Pied-billed Grebe, *Podilymbus podiceps.* Mt. Holly, N. J., June 26, 1921 (Pumyea); Fish House, N. J., April 22 (Potter); Hog Island, April 16 (Miller); Concordville, October 11 (Styer); Reading, October 1 and 16 and April 22–23 (Poole).

Loon, *Gavia immer.* Fish House, N. J., April 19–22 (2) (Potter); Mt. Holly, N. J., May 14, passing overhead (Pumyea); Five-mile Beach, N. J., June 17 and Island Beach, N. J., July 2 (Miller); Reading, April 22 to 23 when it was killed (Poole).

Red-throated Loon, *Gavia stellata.* Corson's Inlet, N. J., April 9, flock of 20 scattered (Potter).

Razor-billed Auk, *Alca torda.* Cape May, N. J., March 11 found dead (Hand); Beach Haven, March 13 found dead (Stone).

Dovekie, *Alle alle.* Beach Haven, N. J., December 30, 1921, found dead (McCadden); Corson's Inlet, N. J., December, 1921, found dead (Huber).

Herring Gull, *Larus argentatus.* Delaware River, September 26–March 26 (Gillespie); Frankford, Phila., October 2–April 23 (Miller); Wayne, March 23, five flying overhead (Alexander); Two-mile Beach, N. J., June 17 and Island Beach, N. J., July 2, common (Miller).

Laughing Gull, *Larus atricilla.* Atlantic City, N. J., May 8 (Cromie); Camden, N. J., appeared on the Delaware River September 9 and present until November 10 (Potter); Stone Harbor, N. J., the high tide of May 28 destroyed nearly all of the nests (Miller).

Bonaparte's Gull, *Larus philadelphia.* Delaware River below Philadelphia, April 16 and 22, common (Miller); at Camden, N. J., April 27 (500) and last seen May 11 (5) (Potter).

Kittiwake, *Rissa t. tridactyla.* Beach Haven, N. J., found dead February, 1921 (S. N. Rhoads).

Common Tern, *Sterna hirundo.* Atlantic City, N. J., May 5 (Cromie); Cape May, N. J., June 11, flock of 200 on the beach (Potter); Stone Harbor, N. J., June 25, breeding colony of 60 pairs (Miller); Delaware River below Philadelphia, April 16–22, common (Miller).

Black Tern, *Chlidonias surinamensis nigra.* Richmond, Phila., May 7, an adult and a number of immatures late in August (Miller).

Black Skimmer, *Rynchops nigra.* Stone Harbor, N. J., June 25, two nests with eggs (Miller).

Merganser, *Mergus americanus.* Fish House, N. J., February 26–April 22 (Potter); Mt. Holly, N. J., February 12–25 (Pumyea); Tulpehocken Creek, Reading, February 4, and common for some time after (Poole).

Hooded Merganser, *Lophodytes cucullatus.* Wolmsdorf, Berks Co., seven pair Marck 25; Reading, April 26 (1) (Poole); Norristown, March 18 (C. Roland).

Mallard, *Anas platyrhynchos.* Wolmsdorf, Berks Co., March 25 (2) (Poole); Sea Isle City, N. J., February 5 (2) (Potter).

Black Duck, *Anas rubripes tristis.* Sea Isle City, N. J., December 4, 1921, 1500–2000 just beyond the surf (Potter); Bridesburg, February 26, common (Miller); Dauberville, Berks Co., March 12 and Wolmsdorf, March 25 (16) (Poole).

Pintail, *Dafila acuta.* Mt. Holly, N. J., March 12 and 16 (Pumyea); Bridesburg, February 26 (Miller); Fish House, N. J., April 29 (Potter).

Baldpate, *Mareca americana.* Reading, March 31 (3) (Poole).

Lesser Scaup, *Marila affinis.* Reading, February 26 (Poole).

Greater Scaup, *Marila marila.* Reading, April 1, 4, 7 (Poole).

Goldeneye, *Glaucionetta c. americana.* Reading, February 26, April 4, 14, May 15 (Poole).

Buffle-head, *Charitonetta albeola.* Fish House, N. J., March 18 (Potter), Erma, Cape May Co., N. J., June 19 (Hand); Reading, April 4 (5) (Poole).

Old-squaw, *Clangula hyemalis.* Reading, April 1 and 23 (Poole).

Ruddy Duck, *Erismatura jamaicensis.* Reading, April 4 (3) 7 (1) (Poole).

Wood Duck, *Aix sponsa.* Mt. Holly, N. J., March 11 and 25, 1921 and April 1 to May 14, 1922, nesting nearby (Pumyea).

Canada Goose, *Branta canadensis canadensis.* Cape May, N. J., February 10, three flocks (Hand); Gibralter, Berks Co., November 13 (54) (Poole).

Whistling Swan, *Olor columbianus.* Fish House, N. J., March 6 (2) (Baird).

Wood Ibis, *Mycteria americana.* Wernersville, Berks Co.; November 10, 1921, one shot and examined in the flesh (Poole).

Great Blue Heron, *Ardea h. herodias.* Salem Co., N. J., about their nesting place, February 25 (Carter); Mt. Holly, N. J. November 20, (Pumyea), Wolmsdorf, Berks Co., April 2 (Poole) Lopez, April 9 (Behr).

Egret, *Casmerodius egretta.* Mt. Holly, N. J., August 1922 (Pumyea) Newtown, August 4, 1922 (Packer).

Black-crowned Night Heron, *Nycticorax n. naevius.* Marshalltown, March 13, two in the heronry (Miller); Cape May, N. J., December 24 and January 30 (Hand).

Yellow-crowned Night Heron, *Nyctinassa violacea.* Glenolden, May 16 (Gillespie). [See Auk.]

Least Bittern, *Ixobrychus exilis.* Fish House, N. J., April 29 and May 5, nest with young just hatched May 27 (Potter); Moslem, Berks Co., May 20 (Poole).

Bittern, *Botaurus lentiginosus.* Reading, May 6, and Greenawalt, May 7 (Poole).

King Rail, *Rallus elegans.* Pennsgrove, N. J., April 16 and common on the Delaware marshes at Richmond and Bridesburg, June 3, nest and 10 eggs (Miller).

Sora, *Porzana carolina.* Greenawalt, Berks Co., May 13, Moslem, May 30, carrying nest material (Poole).

Florida Gallinule, *Gallinula galeata.* Still common on the Delaware marshes at Richmond, May 29, three nests with 9, 9, and 12 eggs, July 22 nest with 10 eggs (Miller).

Coot, *Fulica americana.* Reading, October 15 and 16, and at Charming Forge, April 29 (Poole).

Woodcock, *Philohela minor.* Cape May, N. J., a flight March 12, and old bird with three young at Green Creek, N. J., June 18 (Hand); Mt. Holly, N. J., April 7 and April 14, a nest and four eggs (Pumyea); Merchantville, N. J., April 12 (Potter); Pennsville, N. J., April 16, young just hatched (Miller). Ardmore,

June 17 (Baily); Haverford, March 18 (Serrill); Torresdale, October 28 and April 30 (Richardson); Reading, November 5 and March 12–29 (Poole); Lopez May 2, nest and four eggs, hatched three and young left May 18 (Behr).

Wilson's Snipe, *Gallinula delicata.* Some all winter at Cape May, N. J., increase March 26 and April 19 (Hand), Mt. Holly, N. J., April 5; also March 18 and 25, 1921 (Pumyea). Gwynedd, May 5 (Miller); Greenawalt, Berks Co., May 7, and Reading, October 1, December 9, January 7, March 8 (5), 19 (5), 22 (10) (Poole).

Knot, *Calidris canutus.* Stone Harbor, N. J., June 18 (2) (Potter).

Pectoral Sandpiper, *Pisobia maculata.* Reading, October 14 (Poole); Richmond, May 7 and 21 (Miller).

Least Sandpiper, *Pisobia minutilla,* Cape May, N. J., May 5 (Hand); Atlantic City, N. J.; May 21 (Cromie); Camden, N. J., May 21 (Potter); Stone Harbor, N. J., June 18 (Potter).

Red-backed Sandpiper, *Pelidna alpina sakhalina.* Corson's Inlet, N. J., December 4 (80), February 5 (50) and March 12 (50) (Potter).

Greater Yellow-legs, *Totanus melanoleucus.* Cape May, N. J., March 28 (Hand); Concordville, May 13 (Styer).

Hudsonian Curlew, *Numenius hudsonicus.* Cape May, N. J.; April 23 (Hand).

Willet, *Catoptrophorus s. semipalmatus.* Stone Harbor, May 21 and Island Beach, N. J., July 2, flock of 6 (Miller).

Upland Plover, *Bartramia longicauda.* Newtown (Packer); Eckville, Berks Co., June 26 and Fleetwood, Berks Co. May 20, (Poole); Gwynedd, April 27 (Miller); Greencastle, April 16, young on June 19 (Ziegler).

Black-breasted Plover, *Squatarola squatarola.* Cape May, N. J., May 5 (Hand); Corson's Inlet, N. J., December 4 (10) (Potter).

Sanderling, *Crocethia alba.* Reading, September 11 (Poole).

Semi-palmated Plover, *Charadrius semipalmatus.* Cape May, N. J., May 5 (Hand); Atlantic City, N. J., May 21 (Cromie); Camden, N. J., May 21, and Stone Harbor, N. J., June 18 (Potter); Reading, April 7 (Poole).

Piping Plover, *Charadrius melodus.* Ventnor, N. J., March 19 (5) and Sea Isle, N. J., April 9 (25) (Potter).

Killdeer, *Oxyechus vociferus.* Cape May, N. J., young hatched April 27 (Hand); Pennsgrove, N. J., April 16, hatching (Miller); Buckshutem, N. J., May 6, with three young (Prince).

Golden Plover, *Pluvialis dominicus.* Corson's Inlet, N. J., female shot November 23, 1922 (Huber).

Turnstone, *Arenaria interpres.* Atlantic City, N. J., May 23 (Cromie); Sea Isle City, N. J., May 21 (Potter).

Dove, *Zenaidura macroura carolinensis.* Concordville, small flock wintered, May 4 young left nest (Styer); Ardmore, April 2, nest and eggs (Baily); West Chester, some wintered (Brinton); Chestnut Hill, December 25, 1922, (4) (Trotter); North Wales, January 16, and Holmesburg, February 27 (26) (Miller); Mt. Holly, N. J., January 7 (7) (Pumyea).

Ruffed Grouse, *Bonasa u. umbellus.* Eckville, Berks Co., June 9, with young (Poole).

Ring-necked Pheasant, *Phasianus colchicus.* Rahway, N. J., nest and 12 eggs under bush in open woods not near water (Carter); Wernersville, Berks Co., October 7 (Poole).

Marsh Hawk, *Circus hudsonius.* Frankford, September 3–April 18, occasional (Miller); Reading, November 13–April 30 (Poole).

Cooper's Hawk, *Accipiter cooperi.* Reading, April 29, nest (Poole).

Red-tailed Hawk, *Buteo b. borealis.* Frankford, October 29–April 12 (Miller); Reading, September 24–April 3 (Poole).

Red-shouldered Hawk, *Buteo b. lineatus.* Reading, uncommon, October 7–April 23 (Poole).

Rough-legged Hawk, *Archibuteo l. sancti-johannis.* Jordantown, January 6 (Miller).

Sparrow Hawk, *Falco s. sparverius.* Glenolden, none till March 6 (Gillespie); Lansdowne, April 16, nest and eggs (Carter).

Bald Eagle, *Haliaeetus leucocephalus.* New Tripoli, Lehigh Co., September 5, immature bird (Poole).

Golden Eagle, *Aquila chrysactos.* Brown's Mills, N. J., shot December 1921 (Pumyea)

Barn Owl, *Tyto pratincola.* National Park, N. J., three wintered 1921–2 (Potter); Sinking Springs, Berks Co., June 16, nest, and State Hill, May 21 (Poole).

Short-eared Owl, *Asio flammeus.* Newtown, one shot February 1 (Packer); Norristown, January 17 (C. Roland)

Long-eared Owl, *Asio wilsonianus.* West Chester, five in a nursery for some time, February 21 (Roberts).

Great Horned Owl, *Bubo v. virginianus.* Albany Twp., Berks Co., September 1 (Poole).

Saw-whet Owl, *Cryptoglaux acadica.* Holmesburg, April 5 (Miller); Mountain, Berks Co., April 30 (Poole); National Park, N. J., January 15 (Potter).

Belted Kingfisher, *Ceryle a. alcyon.* Haddonfield, N. J., January 15 (S. N. Rhoads); Ambler, January 20, (Gillen).

Red-headed Woodpecker, *Melanerpes erythrocephalus.* Mt. Holly, N. J., June 16, 1921 (Pumyea).

Yellow-bellied Sapsucker, *Sphyrapicus v. varius.* West Chester, October 18, (Roberts).

Flicker, *Colaptes auratus luteus.* North Wales, February 1; Frankford, February 5, 10, 25; Foxchase, February 11 (Miller).

Pileated Woodpecker, *Ceophloeus pileatus abieticola.* Eckville, Berks Co., on the Blue Ridge, May 28, one seen to good advantage (Poole).

Ruby-throated Hummingbird, *Archilochus colubris.* Concordville, June 30, young flew from the nest (Styer).

Yellow-bellied Flycatcher, *Empidonax flaviventris.* Mount Holly, N. J., May 13 (Pumyea); Vineland, N. J., August 27, 1921 (Prince); Hamburg, Berks Co., May 13–14 (Poole); Ardmore, May 10 (Baily).

Phoebe, *Sayornis phoebe.* West Vincent, Chester Co., April 18, nest and one egg; April 22, five eggs; May 9, all hatched; May 25,. all left the nest and June 4, one egg of a second set (Lloyd).

Horned Lark, *Otocoris alpestris alpestris.* Haverford, January 14 (25) (Serrill); Reading, October 29–January 15, scarce (Poole) Newtown, January 11 (Packer); Greencastle, November 23-March 15 (Ziegler).

Blue Jay, *Cyanocitta cristata cristata.* Wayne, April 2, none wintered (Alexander); West Vincent, Chester Co., none till May 5 (Lloyd); West Chester, none till March 12 (Roberts); Berks Co., resident locally; nest and four eggs, Albany Twp., May 30 (Poole)

Starling, *Sturnus vulgaris.* Vineland, N. J., rapidly increasing, large flocks all winter (Prince); Greencastle, now common (Ziegler).

Bobolink, *Dolichonyx oryzivorus.* Gwynedd, June 7, nest and five eggs (Miller).

Evening Grosbeak, *Hesperiphona v. vespertina.* Vineland, N. J., not seen for two years, a flock arrived January 5 and was seen till March 18 (12–40) (Prince); Mt. Holly, N. J.,, November 20, one bird (Pumyea and Potter); Moorestown, N. J., April 21, 25, 27 (Linton and Jacob); Lopez, October 12, 1921 (Behr).

Pine Grosbeak, *Pinicola enucleator leucura.* Reading, January 24 (8); February 3 (2), 6 (80), 13 (9), March 3 (2) (Poole); Olney, Phila., January 29 (Stone).

Purple Finch, *Carpodacus p. purpureus.* Moorestown, N. J., April 3–May 1 (Mickle); Frankford, October 16 (Miller); Holmesburg, January 7, February 19 and 24 (Miller); Swarthmore, April 22 (Palmer); Glenolden, October 23 (Gillespie); Concordville, April 11 (Styer); West Chester, April 30–May 12 (Roberts); Reading, September 22–May 6 (Poole).

Pine Siskin, *Spinus pinus.* West Chester, April 5 (Sharples); February 21–April 16 (Roberts); Reading, October 8, May 2–5 (Poole); Gwynedd Valley, October 29 (Huber); Kennett, November 24 (Pennock).

Chaffinch, *Fringilla coelebs.* Concordville, December 23 to January 14 with Juncos, finally killed by a Hawk and feathers identified by Dr. Stone (Styer).

Henslow's Sparrow, *Passerherbulus henslowi.* Cape May, N. J., May 8 (Hand); New Lisbon, N. J., May 14 (Pumyea).

Savannah Sparrow, *Passerculus sandw. savanna.* West Chester, February 25, in small flocks more frequent than usual (Roberts).

Song Sparrow, *Melospiza m. melodia.* Holicong, April 28, nest and eggs, hatched May 19 (Cox).

Tree Sparrow, *Spizella m. monticola.* Vineland, N. J., to March 12 (Prince); Frankford, October 24 (Miller); Holicong, October 10–April 8 (Cox); West Chester, to February 25 (Roberts); Greencastle, January 1–March 1 (Ziegler); Reading, November 13–April 2 (Poole).

White-throated Sparrow, *Zonotrichia albicollis.* Vineland, N. J., October 15–April 29 (Prince); Mt. Holly, N. J., October 6–May 17 (Pumyea); Moorestown, N. J., October 24–May 13 (Mickle); Swarthmore, to May 12 (Keighton); Wayne, April 30 (Alexander);

Glenolden, September 24–May 13 (Gillespie); Concordville, September 24–May 7 (Styer); Frankford, September 19–May 15 (Miller); Holicong, November 3–December 8 and May 2–30 (Cox); Reading, September 18–May 13 (Poole); Greencastle, March 26–May 1, none wintered (Ziegler).

White-crowned Sparrow, *Zonotrichia l. leucophrys.* Greenawalt, Berks Co., October 15 (2), October 22 and 26, May 7 and 13 (4) (Poole); Holicong, May 21 (Cox); Greencastle, May 7–11 (Ziegler); Lopez, May 7 (Behr).

Junco, *Junco h. hyemalis.* Vineland, N. J., October 20–March 25 (Prince); Downstown, N. J., October 26–April 29 (Fair); Mt. Holly, N. J., October 9–April 16 (Pumyea); Moorestown, N. J., October 6–May 3 (Mickle); Glenolden, October 5–April 23 (Gillespie); Concordville, October 1–April 30 (Styer); West Chester, October 18–April 30 (Roberts); Swarthmore, to April 30 (Keighton); Frankford, October 11–April 30 (Miller); Holicong, September 23–May 3 (Cox); Reading, September 24–April 30 (Poole); Pocono Lake, June 3 nest and 4 eggs not hatched by June 7 (Carter); Greencastle, October 28 (Ziegler).

Towhee, *Pipilo e. erythrophthalmus.* Newtown, July 9, nest and three eggs (Packer).

Fox Sparrow, *Passerella i. iliaca.* Vineland, N. J., December 2 (Prince).

Rose-breasted Grosbeak, *Zamelodia ludoviciana.* Holmesburg N. J., June 22, 1922 (Pennock).

Cardinal, *Cardinalis c. cardinalis.* West Vincent, Chester Co., several resident (Lloyd); Holicong, two seen (Cox); Greencastle, common resident (Ziegler).

Cliff Swallow, *Petrochelidon l. lunifrons.* Eckville, Berks Co., June 5 and 9, large colonies also June 26; Greenawalt, arrived April 14, prepared to nest May 13; Gibralter, nesting May 24 (Poole).

Tree Swallow, *Iridoprocne bicolor.* Cape May, N. J., September 25–26, 3000 or 4000 on the golf links in an hour-glass shaped group 100 feet wide at end and 300 feet long (Hand).

Cedar Waxwing, *Bombycilla cedrorum.* Greencastle, May 28–June 9 (Ziegler); Concordville, young left the nest July 9 (Styer).

Northern Shrike, *Lanius borealis.* Cape May, N. J., common

winter of 1921–22 (Hand); Beverly, N. J., January 8 (Street); Mt. Holly, N. J., December 26–January 8 (Pumyea); Moorestown, N. J., December 25 and January 22 (Mickle); Concordville, January 1 (Styer); Swarthmore, December 15 (Palmer); Lansdowne, March 21 (Roberts); Merion, February 4, and Malvern February 3 (Beatty); Reading, November 6–March 29, frequent (Poole); Gwynedd, January 20 and March 15 (Miller).

Migrant Shrike, *Lanius ludovicianus migrans.* Gibralter, Berks Co., November 13 (Poole); Newtown, April 7 (Packer); Oreland, April 8 (Miller).

Golden-winged Warbler, *Vermivora chrysoptera.* Mt. Holly, N. J., May 14 and 15 (Pumyea); Merion, May 14 (Beatty); Albany Twp., Berks Co., June 26 and August 19, 1921 (Poole); Reading, May 5 and 6 (Poole).

Nashville Warbler, *Vermivora r. ruficapilla.* Merion, May 2 and 14 (Beatty); Ardmore, May 9 (Baily); West Chester, May 12 (Roberts); Pocono Lake, June 4, nest and five eggs (Carter).

Tennessee Warbler, *Vermivora peregrina.* Swarthmore, May 11 (Palmer); Lansdowne May 12 (Carter); Concordville, May 11 (Styer); West Chester, May 10 (Roberts); Ardmore, May 13 (Baily); Greenawalt, Berks Co., May 13 and Reading, August 26, 1921 (Poole).

Cape May Warbler, *Dendroica tigrina.* West Chester, May 9 (Roberts); Merion, May 15 (Beatty); Oaks, May 13 (Baily); Greenawalt, May 7 (Poole).

Magnolia Warbler, *Dendroica magnolia.* Pocono Lake, June 7, nest and three eggs (Carter).

Blackburnian Warbler, *Dendroica fusca.* Pocono Lake, June 4, nest and four eggs (Carter).

Black-throated Green Warbler, *Dendroica virens.* Eckville, Berks Co., June 5, apparently nesting (Poole).

Bay-breasted Warbler, *Dendroica castanea.* Greencastle, May 14 (Ziegler); Greenawalt, Berks Co., May 7 (Poole).

Myrtle Warbler, *Dendroica coronata.* Reading, February 27, one with Bluebirds (Poole); Kennett Sq., November 25 (Pennock). Pocono Lake, June 5–7, at least two males in song (Carter).

Mourning Warbler, *Oporornis philadelphia.* Oaks, May 13 (Baily).

Connecticut Warbler, *Oporornis agilis.* Vineland, N. J., October 11 (Prince).

Water-Thrush, *Seiurus n. noveboracensis.* Pocono Lake, June 7, nest and two eggs (Carter).

Louisiana Water-Thrush, *Seiurus motacilla.* Haverford, April 15 (Serrill); Reading, April 23 (Poole).

Wilson's Warbler, *Wilsonia p. pusilla.* Oaks, May 13 (Baily); Haverford, May 14 (4) (Serrill); Concordville, May 12 (Styer).

Hooded Warbler, *Wilsonia citrina.* Cape May, N. J., May 8 (Hand); Mt. Holly, N. J., May 14 and 15 (Pumyea); Moorestown, N. J., May 10 (J. R. Lippincott); Greencastle, May 8 (Ziegler); Eckville, Berks Co., June 5, 9, 26, probably breeding, Greenawalt, May 7 and 13; White Bear, May 21 (Poole).

Redstart, *Setophaga ruticilla.* Vineland, N. J., June 10, feeding young (Prince).

Titlark, *Anthus rubescens,* Richmond, January 12 (Miller); Newtown, March 8 flock of 50 (Packer); Reading, February 26 (8) March 25 (30); April 12 (44); May 2 (50) (Poole).

Catbird, *Dumetella carolinensis.* Concordville, last seen October 21 (Styer); Cape May, N. J., December 16 (Hand).

Mockingbird, *Mimus p. polyglottos.* Mt. Holly, N. J., November 20 (Pumyea); Haverford, April 29 (Serrill); West Chester, one singing repeatedly on the Mellor place two miles west during June (Roberts).

Winter Wren, *Nannus h. hiemalis.* Vineland, N. J., October 23 (Prince); Mt. Holly, N. J., October 9–January 2 (Pumyea); Concordville, October 11–April 28 (Styer); Crescentville, February 10 (Miller); Fritz Island, Reading, September 24–April 23 (Poole); Greencastle, December 19 (Ziegler); Beverly, N. J., singing January 8 (Street).

Carolina Wren, *Thryothorus l. ludovicianus.* Fritz Island, Reading, October 26–January 22, one individual (Poole); Greencastle, March 26–April 29 (Ziegler).

Bewick's Wren, *Thryomanes b. bewicki.* Greencastle, April 7, arrived and probably nested (Ziegler).

Long-billed Marsh Wren, *Telmatodytes p. palustris.* Greenawalt, Berks Co., May 7, one watched for 15 minutes under exceptionally favorable circumstances (Poole).

Brown Creeper, *Certhia familiaris fusca.* Moorestown, N. J., September 20–March 2 (Mickle); Vineland, N. J., October 15 (Prince); Mt. Holly, N. J., October 9–February 25 (Pumyea); Glenolden, September 26–January 1 and April 30 (Gillespie); Swarthmore, all winter (Palmer); Frankford, September 19 (Miller); Reading, common September 22–April 15 (Poole); Greencastle, April 2 (Ziegler).

Red-breasted Nuthatch, *Sitta canadensis.* Concordville, September 10 (Styer); West Chester, January 2–May 12, about three (Roberts); Reading, August 26–May 4, in scrub pines on Mt. Penn (3–7) (Poole); Greenawalt, May 7 and 13 (Poole); Greencastle, common during the winter of 1921–22 (Ziegler).

Black-capped Chickadee, *Parus a. atricapillus.* Swarthmore, until April 19 (Palmer); Ringing Rocks, Berks Co., June 16, nest (Packer).

Tufted Titmouse, *Baeolophus bicolor.* Vineland, N. J., all winter (Prince); West Chester, March 9, only record (Roberts); Reading, scarce, only one colony in Berks Co. (Poole).

Blue-gray Gnatcatcher, *Polioptila c. caerulea.* Greencastle, April 30, in apple bloom (Ziegler).

Golden-crowned Kinglet, *Regulus s. satrapa.* Vineland, N. J., October 20 (Prince); Glenolden, Mt. Holly, N. J., October 7–January 8 (Pumyea); Glenolden, October 9–April 10 (Gillespie); Concordville, September 24 (Styer); West Chester, to April 9 (Roberts); Frankford, September 27 (Miller); Swarthmore, to April 12 (Palmer); Reading, September 22–April 7, common (Poole); Greencastle, January 22 (Ziegler).

Veery, *Hylocichla f. fuscescens.* Water Gap, several pairs on the island apparently nesting (Roberts).

Robin, *Planesticus, m. migratorius.* Holicong, April 28, nest with eggs (Cox).

List of Other Species Reported during 1923, and Additional Notes on Species Contained in the Schedule. Autumn Dates refer to the Autumn of 1922 unless Otherwise Stated.

Pied-billed Grebe, *Podilymbus podiceps.* Mt. Holly, N. J., April 7–8 (Pumyea); Northern Lancaster Co., nest and eggs June 6 (Herbert H. Beck).

Dovekie, *Alle alle.* March 18, found dead near Medford, N. J. (S. N. Rhoads).

Herring Gull, *Larus argentatus.* Stone Harbor, N. J., June 17 and 23 (100), Townsend's Inlet, N. J., June 17 (30); Brigantine Beach, N. J., June 24 (100); Gwynedd, March 28, four flew overhead (Miller); Glenolden, November 21–April 5 (Gillespie); Atlantic City, N. J., August 28–May 14 (Cromie); Swarthmore, March 3, two flew over (Palmer); Lansdowne, March 5 (Carter).

Laughing Gull, *Larus atricilla.* Atlantic City, N. J., April 23 (Cromie).

Bonaparte's Gull, *Larus philadelphia.* Chester, April 14 (5) April 22–24 (Miller).

Common Tern, *Sterna hirundo.* Delaware River below Philadelphia, April 22 (Miller).

Sooty Shearwater, *Puffinus griseus.* Stone Harbor, N. J., June 17, 1923, two found dead on the beach (Miller).

Double-crested Cormorant, *Phalacrocorax a. auritus.* Cape May, N. J., April 21 (Hand); Beverly, N. J., November 4 (D. G. Baird).

Merganser, *Mergus americanus.* Mt. Holly, N. J., April 7, three (Pumyea).

Black Duck, *Anas rubripes tristis.* Salem, N. J., May 6, five nests, with 9, 9, 9, 10, and 11 eggs (Miller); Mt. Holly, N. J., April 7 (Pumyea); Swarthmore, small flock flew over May 24 (Palmer).

Pintail, *Dafila acuta.* Burlington, N. J., April 8, three (Pumyea); Richmond, February 2, Tinicum, February 22 (Miller).

Wood Duck, *Aix sponsa.* Maurice River, N. J., September 23 (Prince).

Scaup, *Marila marila.* Buckshutem, N. J., April 7 (Prince); Burlington, N. J., April 8 (25) (Pumyea).

Lesser Scaup, *Marila affinis.* Bridesburg, December 3 (3) (Miller).

Goldeneye, Burlington, N. J., April 8 (Pumyea).

Buffiehead, *Charitonetta albeola.* Darby Creek, March 3 (Serrill).

Canada Goose, *Branta c. canadensis.* Cape May, N. J., March 10, many flocks (Hand); Malvern, January 4, flock of four roosted in a woods and two were shot by a farmer (Beatty).

Whistling Swan, *Olor columbianus.* Cape May, N. J., April 25, four flying past, off the jetty (Hand).

Great Blue Heron, *Ardea h. herodias.* Moorestown, N. J., April 21 (Mickle); Mt. Holly, N. J., April 7 (Pumyea); Pennsville, March 25 (Miller).

American Egret, *Casmerodius egretta.* Torresdale, September 16 (Gaede).

Bittern, *Botaurus lentiginosus.* Moorestown, N. J., May 27 (Linton); Mt. Holly, N. J., April 6 (Pumyea); Darlington, April 21 (Daley).

Wood Ibis, *Mycteria americana.* Cape May, N. J., four present July 7 to August 21, 1923 (Stone). [Auk, 1923, p. 692.]

Woodcock, *Philohela minor.* Cape May, N. J., flights on October 25–27, November 9 and March 5–11 (Hand); Haddonfield, N. J., February 4 (S. N. Rhoads); Frankford, March 4, Pennsgrove, N. J., April 24, nest and two eggs (Miller).

Wilson's Snipe, *Gallinago delicata.* Cape May, N. J., March 10 (Hand); Pennsgrove, N. J., March 25 (4) (Miller); Mt. Holly, N. J., April 8 and 10 (Pumyea).

Semipalmated Sandpiper, *Ereunetes pusillus.* Brigantine, N. J., June 24 (15) (Miller).

Greater Yellow-legs, *Totanus melanoleucus.* Cape May, N. J., April 8 (Hand); Moorestown, N. J., May 5 (Jacob); Haverford, May 6 (Serrill).

Lesser Yellow-legs, *Totanus flavipes.* Cape May, N. J., July 7, 1922 (Hand).

Willet, *Catoptrophorus s. semipalmatus.* Rio Grande, Cape May Co., N. J., May 20, one found dead; Stone Harbor, N. J., June 17 (6) and 23 (4) (Miller).

Upland Plover, *Bartramia longicauda.* Pennsville, April 8 (Miller).

Killdeer, *Oxyechus vociferus.* Buckshutem, N. J., April 7, nest and four eggs (Prince).

Semipalmated Plover, *Charadrius semipalmatus.* Cape May, N. J., April 24 (Hand); Stone Harbor, N. J., June 17 (13) (Miller).

Piping Plover, *Charadrius melodus.* Brigantine Beach, N. J., June 24, ten pairs, nest and four eggs (Miller).

Black-breasted Plover, *Squatarola squatarola.* Cape May, N. J., May 5 (Hand).

Turnstone, *Arenaria interpres.* Cape May, N. J., May 5 (Hand).

Ruffed Grouse, *Bonasa u. umbellus.* Cape May, N. J., January 10, flock of six in upper part of the county (Hand).

Mourning Dove, *Zenaidura macroura carolinensis.* Rahway, N. J., April 27, nest on the ground in a dry spot in a marsh (Carter); Concordville, April 12, young out of the nest (Styer); Paoli, February 12, fourteen (W. W. McCall); Gwynedd January 9 (3); Frankford, February 4 (4) (Miller).

Turkey Vulture, *Cathartes aura septentrionalis.* Pennsville, N. J., April 8, nest and two eggs in a deserted cabin in the woods (Miller).

Marsh Hawk, *Circus hudsonius.* Cape May, N. J., May 13, nest and two eggs (Miller); Lopez, arrived March 23 (Behr).

Cooper's Hawk, *Accipiter cooperi.* Bromall, April 21, nest (Carter); Gwynedd, December 1, 14, January 11, 12 and 26; Frankford, March 9 (Miller); Lopez, arrived April 17 (Behr).

Broad-winged Hawk, *Buteo platypterus.* Salem, N. J., May 30, nest and two eggs and Pennsville, N. J., April 8 (Miller).

Red-tailed Hawk, *Buteo b. borealis.* Anne Arundel Co., Md., April 1, two nests in the tops of lofty pines, one containing two nearly plain white eggs (Carter).

Rough-legged Hawk, *Archibuteo l. sancti-johannis.* Mt. Holly, N. J., February 12 (Pumyea); Tinicum, January 2 and 15 (2), February 22 (4), 25 (2), April 2 (3) (Miller); Darlington, February 7 (Daley).

Pigeon Hawk, *Falco columbarius.* West Chester, April 25, a female shot (Carter).

Sparrow Hawk, *Falco s. sparverius.* Lopez, arrived April 17 (Behr).

Bald Eagle, *Haliaeetus l. leucocephalus.* Gwynedd, April 25 (Miller).

Osprey, *Pandion h. carolinensis.* Salem, N. J.; March 25 (Miller) Buckshutem, N. J., March 5, at the old nest (Prince).

Barn Owl, *Tyto pratincola.* Tinicum, December 11, young found dead apparently about eight weeks old; February 25, nest and three eggs (Miller); April 28, nest and four eggs (Carter); Moorestown, N. J., May 18 (Mickle).

Short-eared Owl, *Asio flammeus.* Salem, N. J., May 6, four nestlings four to six weeks old (Miller).

Long-eared Owl, *Asio wilsonianus.* Germantown, January 22, Holmesburg, March 1 (3); Evansburg, March 10, colony of 25 in a cedar grove; Pennsgrove, N. J., April 22, nest and six eggs (Miller); Bromall, April 21, nest and four eggs (Carter).

Screech Owl, *Otus asio.* April 10, nest and four eggs (Carter).

Saw-whet Owl, *Cryptoglaux acadicus.* Germantown, January 25 (Emlen).

Belted Kingfisher, *Ceryle a. alcyon.* Lansdowne, February 10 (Carter).

Red-headed Woodpecker, *Melanerpes erythrocephalus.* Cape May, N. J., May 13, Ft. Washington, May 19, Gwynedd, May 24, Frankford, at least three pairs bred (Miller).

Yellow-bellied Sapsucker, *Sphyrapicus v. varius.* Pennsgrove, N. J., April 7; Frankford, December 9 (Miller).

Flicker, *Colaptes auratus luteus.* Frankford, December 9, 24, 31, January 1, 13, 20, 27, February 3 and 26; Holmesburg, December 4 (2), 25 (3), January 21; Gwynedd, December 1, 14, 22, January 23, 24; Bustleton, December 25 (3) (Miller).

Whip-poor-will, *Antrostomus v. vociferus.* Rio Grande, N. J., June 3, nest and two young in the down (Miller).

Phoebe, *Sayornis phoebe.* Holicong, till January 23, 1923 (Cox); Glenolden, March 17 (Carter); Glenmore, Chester Co., nest with one egg, April 21, five by April 25, hatched May 13 and a second brood hatched by June 21 (Lloyd).

Arkansas Kingbird, *Tyrannus verticalis.* Cape May, N. J., September 17 (Stone).

Horned Lark, *Otocoris a. alpestris.* Mt. Holly, N. J., February 12 (25) (Pumyea).

Raven, *Corvus corax principalis.* Tyrone, April 15, 1923, four young (Scoville).

Blue Jay, *Cyanocitta c. cristata.* West Chester, May 13, building in beech tree 40 feet from the ground; Folsom, Pa., nest and six eggs in oak 40 feet up (Carter).

Cowbird, *Molothrus a. ater.* Tinicum, February 22 (36); Gwynedd, December 1 (Miller).

Red-winged Blackbird, *Agelaius p. phoeniceus.* Cape May, N. J., flock of about 6000, reached a half mile (Hand).

Rusty Blackbird, *Euphagus carolinus.* Tinicum, December 11 (3) (Miller).

Purple Grackle, *Quiscalus q. quiscula.* White Marsh, January 16 (Miller); Glenolden, February 11 (Carter).

Bobolink, *Dolichonyx oryzivorus.* Buckshutem, N. J., August 29 (Prince); Chestnut Hill, April 28 (E. E. Wildmann).

Red Crossbill, *Loxia curvirostra minor.* Lumberton, N. J., January 21 (5); Smithville, N. J., February 7 (5); Hainesport, N. J., March 18 (2) (Pumyea); Ambler, January 15 (J. R. Gillen); Glenolden, February 25 and April 18 (Gillespie).

White-winged Crossbill, *Loxia leucoptera.* Lumberton, N. J., January 21, Smithville, N. J., February 7 (Pumyea).

Purple Finch, *Carpodacus p. purpureus.* Moorestown, N. J., May 4 (Mickle); Beverly, N. J., October 28- May 6 (D. G. Baird); Glenolden, October 29–May 3 (Gillespie); Darlington, January 25 (10) (Daley).

Pine Siskin, *Spinus pinus.* Moorestown, N. J., January 25 and February 13 (Mickle); Smithville, N. J., February 18 (10) (Pumyea); Concordville, present all winter, 50 on May 13, and last seen on May 19 (Styer); Fox Chase, January 29 (30) (Miller).

Goldfinch, *Astragalinus t. tristis.* Holmesburg, September 1, nest and five fresh eggs (Miller).

Vesper Sparrow, *Pooecetes g. gramineus.* Glenmore, nest and four eggs May 7 (Lloyd); Gwynedd, December 1, 1922 (Miller).

Henslow's Sparrow, *Passerherbulus henslowi.* Pennsgrove, N. J., April 22 (3) (Miller).

Swamp Sparrow, *Melospiza georgiana.* Tinicum, December 11 and April 2 (Miller).

Field Sparrow, *Spizella p. pusilla.* Bustleton, December 25 (2); January 24 (2) (Miller).

Tree Sparrow, *Spizella m. monticola.* Pennsville, N. J., April 8 (Miller); Holicong, October 30 (Cox).

White-throated Sparrow, *Zonotrichia albicollis.* Moorestown, N. J., October 5–May 13 (Mickle); Beverly, N. J., October 12–May 13 (D. B. Baird); Glenolden, September 24–May 24 (Gillespie); Swarthmore, May 16 (Palmer); Lansdowne, May 4 (Roberts); Concordville, to May 15 (Styer); Frankford, September 23 to May (Miller); Darlington, April 21–June 2 (Daley).

White-crowned Sparrow, *Zonotrichia l. leucophrys.* Holicong, May 13 (Cox); Concordville, May 13 (Styer).

Junco, *Junco h. hyemalis.* Moorestown, N. J., September 29–April 25 (Mickle); Beverly, N. J., October 15–April 22 (Baird); Glenolden, September 26–April 26 (Gillespie); Buckshutem, N. J., October 14–March 21 (Prince); Downstown, N. J., October 19-April 18 (Fair); Vineland, N. J., October 14–March 21 (Prince); Holicong, September 22 (Cox); Glenmore, Chester Co., October 10–May 29 (Lloyd). Frankford, October 2–April 30 (Miller).

Fox Sparrow, *Passerella i. iliaca.* Frankford, December 9–February 23, several wintered; Fairmount Park, Phila., February 8, Bustleton, December 18–January 21 (Miller).

Towhee, *Pipilo e. erythrophthalmus.* Vineland, N. J., February 3 (Prince); Pennsgrove, N. J., April 8 (Miller); Frankford, January 13 (Miller).

Cardinal, *Cardinalis c. cardinalis.* Glenmore, Chester Co., a pair wintered (Lloyd).

Blue Grosbeak, *Guiraca c. caerulea.* Cape May, N. J., November 11, a female (Potter).

Cliff Swallow, *Petrochelidon l. lunifrons.* Cape May, N. J., May 13 (10) (Miller).

Barn Swallow, *Hirundo erythrogastra.* Pennsgrove, N. J., April 7 (2) (Miller).

Tree Swallow, *Iridoprocne bicolor.* Cape May, N. J., large flocks of many thousands October 11 and 13 (Hand).

Purple Martin, *Progne subis.* Cape May, N. J., last seen September 17 (Hand); Limerick, April 15 (3) (Miller).

Pipit, *Anthus rubescens.* Tinicum, February 22 (18) (Miller); Glenolden, March 25 (Gillespie).

Northern Shrike, *Lanius borealis.* Downstown, N. J., January 28 (Fair).

Black and White Warbler, *Mniotilta varia.* Rio Grande, Cape May Co., N. J., June 3, nest and five young (Miller).

Nashville Warbler, *Vermivora r. ruficapilla.* Lansdowne, May 13 (Carter).

Tennessee Warbler, *Vermivora peregrina.* Haverford, May 20 (Serrill); Concordville May 23 (Styer).

Golden-winged Warbler, *Vermivora chrysoptera.* Holicong, May 6 (Cox); Concordville, May 5 and 6 (Styer); Haverford, May 6, a pair (Serrill).

Yellow Warbler, *Dendroica a. aestiva.* Pennsgrove, N. J., April 22 (Miller).

Bay-breasted Warbler, *Dendroica castanea.* Darlington, May 19 (Daley); Moorestown, N. J., and May 13 (Linton).

Cape May Warbler, *Dendroica tigrina.* Swarthmore, May 16–18 several (Palmer); Lansdowne May 13 (Carter); Concordville, May 17 (Styer).

Prairie Warbler, *Dendroica discolor.* Rio Grande, Cape May Co., May 27, nest and eggs (Miller).

Maryland Yellow-throat, *Geothlypis t. trichas.* Pennsgrove, N. J. April 23 (3) (Miller); Tulpehockin Creek, six miles west of Reading, December 18, 1920 (Poole).

Louisiana Water-Thrush, *Seiurus motacilla.* Wissahickon Creek, June 13, nest and young, (Wm. Jay).

Wilson's Warbler, *Wilsonia p. pusilla.* Haverford, May 13 (Serrill); Darlington, May 18 (Daley); Concordville, May 12 (Styer).

Hooded Warbler, *Wilsonia citrina.* Rio Grande, June 3, nest and two eggs (Miller); Merion, May 17 (Beatty); Moorestown, N. J., May 5, unusually abundant (Mickle).

Redstart, *Setophaga ruticilla.* Salem, May 30 (Miller).

Brown Thrasher, *Toxostoma rufum.* Glenolden, November 22–December 5 (Gillespie); Haverford, December 26 (Wm. W. McCall).

Catbird, *Dumetella carolinensis.* Cape May, N. J., December 9 (Hand); Merion, February 14–March 30 (Beatty).

Mockingbird, *Mimus p. polyglottos.* Vineland, N. J., April 28–29 (Prince); Salem, N. J., May 6 (Miller); Cape May, N. J., May 13 (Miller); Darlington, April 26, only record in 5 years (Daley).

Winter Wren, *Nannus h. hiemalis.* Vineland, N. J., October 13 (Prince); Moorestown, N. J., September 28 (Mickle); Glenolden, October 13–April 3 (Gillespie); Merion, April 15 (Beatty); Holicong October 3 (Cox); Concordville, to May 2 (Styer); Frankford, September 25 (Miller).

Short-billed Marsh Wren, *Cistothorus stellaris.* Salem, May 6 (2) (Miller).

Brown Creeper, *Certhia familiaris americana.* Moorestown, N. J.

October 6 to January 1 (Mickle); Beverly, N. J., October 15–April 6 (Baird); Glenolden, October 15–April 6 but none in mid-winter (Gillespie); Darlington, January 5–May 24 (Daley); Swarthmore, April 2 (Palmer); Holicong, October 10 (Cox); Frankford, October 2 (Miller); Pocono Lake, feeding full grown young, May 23 (Carter).

Red-breasted Nuthatch, *Sitta canadensis.* Mt. Holly, N. J., December 25 (Pumyea).

White-breasted Nuthatch, *Sitta c. carolinensis.* Beverly, N. J., October 4–March 11, very few (Baird); Bustleton, April 28, six young hatched and two infertile eggs (Miller).

Golden-crowned Kinglet, *Regulus s. satrapa.* Moorestown, N. J., September 28 (Mickle); Beverly, N. J., to April 21 (Baird); Glenolden, October 9–April 12 (Gillespie); Holicong, November 10 (Cox); Frankford, September 25–April 21 (Miller); Darlington, January 4–April 7 (Daley); Pocono Lake, May 26, nest and five eggs (Carter).

Ruby-crowned Kinglet, *Regulus c. calendula.* Vineland, N. J., September 23 (Prince); Moorestown, N. J., September 25 (Mickle); Frankford, December 12, Bustleton, December 16 (2) (Miller).

Hermit Thrush, *Hylocichla g. pallasi.* Cape May, N. J., December 16 (Hand).

Robin, *Planesticus m. migratorius.* Glenolden, February 11 (Carter).

Bluebird, *Sialia s. sialis.* Glenmore, Chester Co., young left the nest April 21 (Lloyd).

List of Other Species Reported during 1924, and Additional Notes on Species Contained in the Schedule. Autumn Dates refer to the Autumn of 1923 unless Otherwise Stated.

Pied-billed Grebe, *Podilymbus podiceps.* Bernharts, Berks Co., September 8–November 10, 1923 and April 14, April 20 to May (Poole).

Dovekie, *Alle alle.* Corson's Inlet, N. J., January 7 (Huber).

Loon, *Gavia immer.* Angelica dam near Reading, April 26–29 (Poole)

Herring Gull, *Larus argentatus.* Atlantic City, N. J., August 26, 1923 (Cromie); Vineland, N. J., August 17, 1923 (Prince).

Laughing Gull, *Larus atricilla.* Atlantic City, N. J., May 1 (Cromie).

Bonaparte's Gull, *Larus philadelphia.* Cape May, N. J., December 9, 1923 (6) (Miller).

Black-backed Gull, *Larus marinus.* Seaside Heights, Barnegat Bay, N. J., March 15 (Barker and Morgan).

American Merganser, *Mergus americanus.* Tulpehocken Creek near Reading, December 26–April 12 (Poole), Neshaminy Creek near Doylestown, March 28 (9) and common till early April (MacReynolds)

Mallard, *Anas platyrhynchos.* Near Reading, March 8 and August 10 (Poole).

Black Duck, *Anas rubripes tristis.* Charming Forge, near Reading, March 8 (10) March 9 (2), Blue Marsh, April 5 (Poole).

Baldpate, *Mareca americana.* Reading, November 10, 1923, March 30 and April 5 (Poole).

Blue-winged Teal, *Querquedula discors.* Bernhart's near Reading, April 29, (2) (Poole).

Lesser Scaup, *Marila affinis.* Angelica near Reading, April 10, 14, and 24, and one on the Schuylkill, June 16 to October 2 when it was shot (Poole).

Old-squaw, *Clangula hyemalis.* Near Reading, May 1 (3) (Poole).

Wood Duck, *Aix sponsa.* Doylestown, April 24 and 27, said to be nesting (MacReynolds); near Reading, August 10, 1923 (Poole); Mt. Holly, N. J., four, April 1 (Hacker).

Brant, *Branta bernicla.* Cape May, N. J., January 28, very rare, (Hand).

Canada Goose, *Branta c. canadensis.* Vineland, N. J., October 23, 1923 (Prince); Atlantic City, N. J., large flock flying north February 6 (Carter).

Greater Snow Goose, *Chen hyperborea nivalis,* Cape May, N. J., January 28, one shot (Hand)

Great Blue Heron, *Ardea h. herodias.* Atlantic City, N. J., May 6 (Cromie); Frankford, December 9, 1923 (2) (Miller); Reading, July 21, 26, August 10, September 3, 1923 and April 25 (Poole); Swarthmore, April 26 (2) (Palmer).

Little Blue Heron, *Florida caerulea.* Holmesburg, July 14, 1923 (Miller); Reading, July 26 (3), August 10 and 12, September 3 (5), 1923 (Poole).

Egret, *Casmerodius egretta.* Blue Marsh, Reading, July 26 (2) 1923 (Poole).

Bittern, *Botaurus lentiginosus.* Pine Run, Doylestown, April 27, first time in many years (MacReynolds); Amityville, Berks Co., April 13 (Poole).

Florida Gallinule, *Gallinula galeata.* One came aboard Five fathom Light ship off Cape May, May 18 (Hand).

Sora, *Porzana carolina.* Moselem, near Reading, May 18 (Poole).

Coot, *Fulica americana.* Reading, March 30 and May 18 (2) (Poole); Bridgeboro, N. J., May 4 (Gaede).

Woodcock, *Philohela minor.* Town Bank, Cape May, February 20, apparently nesting; Cape May, N. J., October 18 and 27, a small flight each day (Hand); Pennsville, N. J., March 30, two nests with four eggs each (Miller); Mt. Holly, N. J., March 30, May 10 (Pumyea); Glenolden, April 6 (Gillespie); Haverford, April 12 (Serrill); Reading, April 12 and 27 and May 10 (Poole); Doylestown, flights March 27 and 30 and April 13 (MacReynolds); Lopez, April 21 and May 1, nests with four eggs each (Behr).

Wilson's Snipe, *Gallinago delicata.* Cape May, N. J., flights on October 23, 1923 and April 2 (Hand); Jeffersonville, March 9 (Middleton); Doylestown, April 16 and 27 (MacReynolds); Reading, January 19 and 20 (Poole).

Least Sandpiper, *Pisobia minutilla.* Atlantic City, N. J., May 3 (Cromie); Reading, August 5, 1923 (Poole).

Semipalmated Sandpiper, *Ereunetes pusillus,* Cape May, N. J., April 30 (Hand); Atlantic City, N. J., May 3 (Cromie).

Pectoral Sandpiper, *Pisobia maculata.* Reading, August 5, 1923 (Poole).

Solitary Sandpiper, *Tringa solitaria.* Richmond, July 27 (3) (Miller).

Lesser Yellow-legs, *Totanus flavipes.* Cape May, N. J., a flight on September 10, 1923, many taken (Hand); Richmond, August 10, 1923 (Miller); Reading, August 12, 1923 (Poole).

Greater Yellow-legs, *Totanus melanoleucus.* Atlantic City, N. J., May 6 (Cromie); Haddonfield, N. J., May 2 (Tatum); Mt. Holly, N. J., May 10 and 11 (Pumyea); Lansdowne, May 2 (Carter); Glenolden, April 21 (Gillespie); Jeffersonville, April 30 (2) and May 30 (Middleton); Concordville, April 27 (Styer); Reading, May 5 (2); near Doylestown, May 1 and 10 (MacReynolds).

Upland Plover, *Bartramia longicauda.* Blandon, Berks Co., April 25 and Moselem, May 18 (Poole); Gwynedd Valley, April 24 (Miller); Doylestown, April 24 (MacReynolds).

Ring-necked Plover, *Charadrius semipalmatus.* Atlantic City, N. J., May 6 (Cromie).

Killdeer, *Oxyechus vociferus.* Angelica, Berks Co., January 13 (2) (Poole); Cold Spring cemetery, Cape May, N. J., nest and four eggs, April 20 (Hand).

Turnstone, *Arenaria interpres.* Ocean City, N. J., August 17, 1923 (Prince).

Ruffed Grouse, *Bonasa u. umbellus.* Upper Cape May Co., N. J., December 2 (10) December 4 (3) (Hand).

Mourning Dove, *Zenaidura macroura carolinensis.* Blue Marsh, Reading, January 12 (2) (Poole); Mt. Airy, Phila., February 27 (2) (Miller).

Turkey Vulture, *Cathartes aura septentrionalis.* Cape May, N. J., 34 roosting on the airdrome (Hand).

Mississippi Kite, *Ictinia mississippiensis.* Cape May, N. J., May 30 (Baily, Potter, Stone). [Auk 1924, p. 477.]

Marsh Hawk, *Circus hudsonius.* Jeffersonville, October 20–April 24 (Middleton).

Cooper's Hawk, *Accipiter cooperi.* Byberry, May 19, nest and four eggs (Miller).

Sharp-shinned Hawk, *Accipiter velox.* Cape May, N. J., September 10, a small flight; September 14, a large flight, 900 to 1000 killed; October 18, another flight (Hand).

Broad-winged Hawk, *Buteo platypterus.* Mt. Airy, Phila., April 25 (Jay); Glenolden, April 26 (Gillespie); Wissahickon, April 27 (Barker); Swarthmore, April 27 (Palmer); Reading, April 23 (Poole).

Duck Hawk, *Falco p. anatum.* City Hall, Phila., March 12 and October 9 (Gillespie).

Pigeon Hawk, *Falco columbarius.* Doylestown, March 2 (3), April 2 and 27 (MacReynolds).

Bald Eagle, *Haliaeetus l. leucocephalus.* Reading, January 13 (Poole); Woodland Beach, Delaware, nest and two eggs 45 feet up in sweet gum tree, March 9 (Carter); Paoli, March 3 (McCann).

Osprey, *Pandion h. carolinensis.* Cape May, N. J., September 11, 1923 (Hand).

Barn Owl, *Tyto pratincola.* Mt. Holly, N. J., May 18 (Pumyea); Lansdowne, heard screaming April 28, 9 P. M., and May 2 as it flew over (Carter); Jeffersonville May 3 (Middleton).

Barred Owl, *Strix v. varia.* Haverford, February 12 (McCall).

Great Horned Owl, *Bubo v. virginianus.* Haddonfield, N. J., May 3 (Tatum); Woodland Beach, Del., March 9 (Carter).

Belted Kingfisher, *Ceryle a. alcyon.* Germantown, February 8 (Barker); Chamounix, Phila., January 11 (Miller).

Red-bellied Woodpecker, *Centurus carolinus.* Woodland Beach, Del., March 8 and 9 (Carter).

Yellow-bellied Sapsucker, *Sphyrapicus v. varius.* Frankford, January 24 (Miller); near Reading, January 26 (Poole).

Chimney Swift, *Chaetura pelagica.* Moorestown, N. J., September 27 (Mickle).

Olive-sided Flycatcher, *Nuttallornis borealis.* Vinemont near Reading, May 31 (Poole).

Yellow-bellied Flycatcher, *Empidonax flaviventris.* Vineland, N. J., October 6, 1923 (Prince); Wissahickon, May 13 (Barker); Glenolden, May 25 (Gillespie); Ardmore, May 28 (Baily); Mt. Penn, near Reading, May 30 (12) (Poole).

Alder Flycatcher, *Empidonax trailii alnorum.* Reading, May 25, one singing (Poole).

Phoebe, *Sayornis phoebe.* Vineland, N. J., October 6, 1923 (Prince).

Horned Lark, *Otocoris a. alpestris.* Downstown, N. J., February 4 (Fair); Frankford, February 9 (Miller).

Prairie Horned Lark, *Otocoris alpestris praticola.* Mountain, Berks Co., flock of 25, July 22, 1923 (Poole).

Blue Jay, *Cyanocitta c. cristata.* Moorestown, N. J., unusually abundant September 29, 1923–April 5 (Mickle); arrived Swarthmore, April 20 (Palmer); Ardmore, May 4 (Baily).

Crow, *Corvus b. brachyrhynchos.* Lansdowne, breaking off sticks from tree, March 30 (Carter).

Fish Crow, *Corvus ossifragus.* Byberry, nest and three eggs, May 13 (Miller).

Bobolink, *Dolichonyx oryzivorus.* Moorestown, N. J., heard July 31–August 30, 1923 (Mickle).

Rusty Grackle, *Euphagus carolinus.* Torresdale, December 1 (3) (Miller).

Baltimore Oriole, *Icterus galbula.* Vineland, N. J., September 18, 1923 (Prince).

Bronzed Grackle, *Quiscalus q. aeneus.* Smyrna, Del., one found dead March 8 (Carter).

Snow Bunting, *Plectrophenax n. nivalis.* Barnegat Bay, N. J., November 2, 1924 (Emlen).

Pine Siskin, *Spinus pinus.* Mt. Holly, N. J., April 19, flocks (Barker); May 11 (Pumyea); Swarthmore, May 3 (5) remained several weeks (Palmer).

Purple Finch, *Carpodacus p. purpureus.* Holmesburg and Fairmount Park wintered (Miller); Moorestown, N. J., March 20 (Mickle and Jacob); George School, April 24 for several days (Lippincott).

Pine Grosbeak, *Pinicola enucleator leucura.* Antietam, Berks Co., flock of 8–10, November 25–February 3 (Poole); Lancaster, Pa., March 18 (Marburger).

Henslow's Sparrow, *Passerherbulus henslowi.* Mt. Holly, N. J., May 18 (Pumyea); Carney's Point, April 13 (Miller).

Lincoln's Sparrow, *Melospiza lincolni.* Glenolden, May 25 and 28 same individual trapped and banded (Gillespie).

Chipping Sparrow, *Spizella p. passerina.* Reading, January 17, 1924, one carefully identified (Poole).

Field Sparrow, *Spizella p. pusilla.* Glenolden, until November 19, 1923 (Gillespie); Carsonia, near Reading, January 1 (2), (Poole); Frankford, Phila., two wintered (Miller).

Tree Sparrow, *Spizella m. monticola.* Glenolden, first seen November 19, 1923 (Gillespie).

Junco, *Junco h. hyemalis,* arrived, Downstown, N. J., October 11, 1923 (Fair); last seen at Mt. Holly, N. J., May 19 (Pumyea); George School, May 2 (Lippincott); Doylestown, May 1 (Mac

Reynolds); present at Vineland, N. J., October 18–April 10 (Prince); Moorestown, N. J., October 15–April 26 (Mickle); Jeffersonville, October 7–April 26 (Middleton); Glenolden, September 30–May 2 (Gillespie); Frankford, Phila., September 30,–April 27 (Miller).

White-throated Sparrow, *Zonotrichia albicollis.* Glenolden, September 25–May 11 (Gillespie) ten wintered; Vineland, N. J., October 6–May 6 (Prince); Moorestown, N. J., October 5–May 7 (Mickle); Frankford, Phila., September 30–May 17 (Miller); arrived at George School, April 21 (Lippincott); Jeffersonville, April 24 (Middleton); last seen at Mt. Holly, N. J., May 18 (Pumyea).

White-throated Sparrow, *Zonotrichia l. leucophrys.* Reading, May 10, one seen (Poole).

Dickcissel, *Spiza americana.* Near West Chester, caught February 11, 1924 (Carter).

Cardinal, *Cardinalis c. cardinalis.* Nest and eggs, May 10, Swarthmore (Palmer), common at George School, winter and spring (Lippincott).

Scarlet Tanager, *Piranga erythromelas.* Last seen at Vineland, N. J., September 17, 1923 (Prince).

Purple Martin, *Progne s. subis.* Cape May, N. J., last seen September 15, 1923 (Hand).

Tree Swallow, *Iridoprocne bicolor.* Cape May, N. J., October 18, 1923, ten thousand on the wires at Madison St.; November 17, 1500, and December 11, 300. January 21, flock of 34, January 26 (17), February 5 (17) and February 20, over 100 (Hand).

Rough-winged Swallow, *Stelgidopteryx serripennis.* Ocean City, N. J., August 17, 1923 (Prince).

Northern Shrike, *Lanius borealis.* Haddonfield, N. J., February 22 (Tatum), Shortersville, Berks Co., November 4 (Poole).

Black and White Warbler, *Mniotilta varia.* Vineland, N. J., five young, July 19, 1923 (Prince).

Parula Warbler, *Compsothlypis americana usneae.* Vineland, N. J., last seen, September 14, 1923 (Prince).

Prothonotary Warbler, *Protonotaria citrea.* St. Georges, Del., May 17 (Carter).

Golden-winged Warbler, *Vermivora chrysoptera.* Glenolden,

May 4 (Gillespie); Wissahickon, May 8 (Barker); Concordville, May 13 (Styer).

Nashville Warbler, *Vermivora r. ruficapilla.* Glenolden, May 13 (Gillespie); Merion, May 12 (Beatty); Reading, May 4 (Poole); Jeffersonville, May 22–24, five seen (Middleton).

Tennessee Warbler, *Vermivora peregrina.* Glenolden, May 24 (Gillespie); Jeffersonville, May 23 (Middleton); Concordville, May 19 (Styer); Reading, September 8, 16, 22, 23 (Poole).

Cape May Warbler, *Dendroica tigrina.* Vineland, N. J., September 5 and 24, 1923 (Prince); Haddonfield, N. J., May 2 (Tatum) Jeffersonville, May 22 (6), May 26 (1), (Middleton).

Bay-breasted Warbler, *Dendroica castanea.* Moorestown, N. J., May 28 (Jacob); Haddonfield, N. J., May 22 (Tatum); Glenolden, May 25, a wave (Gillespie); Concordville, May 19–31 seven times (Styer); Reading, May 20–June 1, rather common (Poole).

Myrtle Warbler, *Dendroica coronata.* Vineland, N. J., November 3 and December 20 (Prince).

Yellow-palm Warbler, *Dendroica palmarum hypochrysea.* Doylestown one with Juncos, January 1 (MacReynolds).

Mourning Warbler, *Oporornis philadelphia.* Lansdowne, May 25 (Carter); Jeffersonville, May 22 (2), May 24 (1) (Middleton).

Connecticut Warbler, *Oporornis agilis.* Reading, September 16 (Poole).

Water-Thrush, *Seiurus noveboracensis.* Vineland, N. J., September 5, 12 and 24, 1923 (Prince).

Louisiana Water-Thrush, *Seiurus motacilla.* Near Reading, April 13 (Poole).

Hooded Warbler, *Wilsonia citrina.* Glenolden, April 24, May 9, 11, 12 (Gillespie); Concordville, May 22 (Styer); Ardmore, May 1 (Baily); Merion, May 12 (Beatty); Mt. Airy, May 6 (Jay); Wissahickon, May 6 (Barker); Reading, May 6 and 10 (Poole).

Wilson's Warbler, *Wilsonia p. pusilla.* Haddonfield, N. J., May 23 (Tatum); Lansdowne, May 25 (Carter); Concordville, May 20–29, five times (Styer); Glenolden, May 25 (Gillespie); Jeffersonville, May 22 (2) and 23 (Middleton); Reading, May 18 and 25 (Poole); Vineland, N. J., September 20, 1923 (Prince).

Redstart, *Setophaga ruticilla.* Cape May, N. J., September 11 (Hand).

Pipit, *Anthus rubescens.* Haddonfield, N. J., March 23, flock of 6 (Tatum); Mt. Holly, N. J., flock of 150, Nov. 4 (Pumyea).

Mockingbird, *Mimus p. polyglottos.* Downstown, N. J., July 5, 6, 7, 1923 and May 21–24, 1924 (Fair); Glenolden, May 4 (Gillespie); Beach Haven, N. J., August 16, 1924 (M. M. Green).

Catbird, *Dumetella carolinensis.* January 5, near Reading, (Poole).

Carolina Wren, *Thryothorus l. ludovicianus.* Swarthmore, young leaving the nest May 14 (Palmer); nest and 4 eggs, Wissahickon, May 5 (Yoder).

Long-billed Marsh Wren, *Telmatodytes p. palustris.* Cape May, N. J., December 9, 1923, one (Miller).

Winter Wren, *Nannus h. hiemalis.* Glenolden, October 14–April 27 (Gillespie); Frankford, Phila., September 30–April 27 (Miller); Moorestown, N. J., October 24, 1923 (Mickle); April 23, George School (Lippincott); Lansdowne, March 23–24, singing (Carter).

House Wren, *Troglodytes a. aëdon.* Glenolden, Pa., young left nest September 1 (Gillespie).

Brown Creeper, *Certhia familiaris americana.* Moorestown, N. J., October 10–December 25 (Mickle); Glenolden, September 29–April 28 (Gillespie); Frankford, Phila., September 30–April 21 (Miller); Ardmore, April 24–May 2 (Baily); Swarthmore, April 5 and 26 (Palmer); Doylestown, April 24 (MacReynolds); George School, last seen April 27 (Lippincott); Jeffersonville, April 28 (Middleton).

White-breasted Nuthatch, *Sitta c. carolinensis.* Moorestown, N. J., September 21–March 18 (Mickle); Downstown, N. J., October 1, (Fair); Jeffersonville, November 3–April 20 (Middleton).

Red-breasted Nuthatch, *Sitta canadensis.* Moorestown, N. J., September 21–December 25, 1923; Reading on Mt. Penn, September 10–May 17 (Poole); Concordville, September 12, 23 and May 11 (Styer); common on Wissahickon, March 30 (Gaede); Glenolden, September 9, 1923 (Gillespie); Downstown, N. J., February 10 (Fair); Mt. Airy, May 2 (Jay).

Black-capped Chickadee, *Penthestes a. atricapillus.* Glenolden three individuals, October 4 and December 25 (Gillespie); Ardmore, March 30 (Baily); Jeffersonville, January 30 (1) April 13 (3) Middleton.

Tufted Titmouse, *Baeolophus bicolor.* Moorestown, N. J., unusually abundant during the winter of 1923–24 (Mickle); George School, frequent (Lippincott).

Blue-gray Gnatcatcher, *Polioptila c. caerulea.* Glenolden, April 23, 27 and May 3, September 12, 1924, one seen each time (Gillespie); Jeffersonville, April 26, singing continually for about two hours, very tame (Middleton); Mohnton, Berks Co., May 3, watched for half an hour (Poole); Bridgeton, N. J., May 4 (Matlack); Haddonfield, N. J., April 19 (McMullen).

Golden-crowned Kinglet, *Regulus s. satrapa.* Last seen George School, April 22 (Lippincott); Doylestown, April 22 to May 1 (MacReynolds); arrived but did not winter at Moorestown, N. J., October 10 (Mickle); Glenolden, October 6 (Gillespie); Frankford, Phila., September 30 (Miller).

Ruby-crowned Kinglet, *Regulus c. calendula.* Arrived at Vineland, N. J., October 6, (Prince); Moorestown, N. J., October 4, very abundant (Mickle).

Hermit Thrush, *Hylocichla guttata pallasi.* Vineland, N. J., October 10, 1923 (Prince).

Robin, *Planesticus m. migratorius.* Holmesburg, December 1 (1) (Miller); Cape May, N. J., flights on October 21, 26, 28 and November 10 (Hand).

Bluebird, *Sialia s. sialis.* Holmesburg, December 1 (1) (Miller); Cape May, N. J., October 21 and 26 flights (Hand).

Abstract of the Proceedings of the Delaware Valley Ornithological Club, 1922

January 5, 1922. Annual Meeting, forty-five members and two visitors present. Officers for the ensuing year were elected as follows:

President—James A. G. Rehn.
Vice-President—George H. Stuart, 3rd.
Treasurer—Samuel C. Palmer.
Secretary—Julian K. Potter.

J. Fletcher Street addressed the club on "Camera Records of Bird Studies" showing many admirable lantern slides of local birds from photographs made during 1921.

January 19, 1922. Thirty-one members and seven visitors present. Mr. Geo. H. Stuart, 3rd, spoke on "Bird Notes from Montana and Saskatchewan," covering a trip made in May, 1921. Many interesting nests were found and a number of photographs taken which were shown on the screen.

February 2, 1922. Thirteen members and three visitors present. Dr. Samuel C. Palmer spoke on "The Origin of Species" with especial reference to birds, and discussed the theories of Darwin, DeVries and Mendel.

February 16, 1922. Twenty-two members and two visitors present. Mr. J. A. G. Rehn spoke on "Some Bird Notes from Plain and Mountain" covering bird observations on an entomological trip to Colorado, New Mexico and the Pan Handle region of Texas.

March 2, 1922. Seventeen members and three visitors present. Mr. Samuel N. Rhoads described "The Earliest Printed Illustrations of Birds as shown by Original Specimens of Art." 'Das Buch der Natur' by Conrad von Mergenberg (1475) was the earlies t book of importance containing illustrations of natural objects. Early works from the library of the Academy were on exhibition.

The death on February 26, 1922, of Mr. Thomas H. Jackson,

one of the original Corresponding Members of the Club was announced and the following minute adopted:

The members of the D. V. O. C. have learned with deep sorrow of the death of their fellow member, Thos. H. Jackson, and desire to place on record the high regard in which they held him as a friend and associate and their thorough appreciation of his high attainments as a student of birds.

March 16, 1922. Twenty-eight members and five visitors present. The following were elected to Associate Membership: Dr. R. M. Gummere, Chas. Mayer, Rodolphe Meyer de Schauensee, George G. Lower, Philip M. Hicks, Philip A. Livingstone and Henry Troth.

Dr. Witmer Stone gave an illustrated talk on "Through the Moonshine District of Eastern Kentucky with Camera and Binoculars," describing a week's trip taken in late April and early May, 1921, to the Pine Mt. region with notes on sixty species of birds including Gnatcatcher, Summer Tanager, Bewick's Wren and Pileated Woodpecker.

April 6, 1922. Nineteen members present. Mr. W. E. Roberts spoke on "Additional Bird Notes from Tobyhanna, Pa." Mr. Asa P. Way made supplementary remarks on the bird life at Bushkill, Pa., a similar locality.

Mr. Julian K. Potter spoke on "Some Winter Birds of our Coast, Difficult to Identify," discussing the field identification marks of the Loons, Grebes, Gulls and Ducks.

April 20, 1922. Twenty-eight members and two visitors present. The death on April 12, 1922 of George Spencer Morris one of the founders and an ex-president of the club was announced, the first break in the ranks of the seven who organized the Club in 1890. The following minute was adopted:

The Delaware Valley Ornithological Club has heard with the deepest sorrow of the death of George Spencer Morris.

He was one of the seven founders of our organization and no small measure of its success has been due to his untiring interest and support. As Secretary, President, and member of our Publication Committee, he gave his best thought and effort to carrying out the objects for which we stand. Great as is his loss, as an officer and advisor, the members miss still more keenly the kind and generous friend, the cheerful and lovable companion, who endeared himself to us all, and in his passing we feel that much of our light has gone out.

The subject of the evening was "Bird Adventures Down South" by Samuel Scoville, Jr., describing a trip to Virginia in search of nests of the Summer Tanager, Yellow-throated Warbler and Gnatcatcher.

May 4, 1922. Eighteen members and two visitors present. The meeting was devoted to a symposium on the nesting of Hawks and Owls.

Dr. Stone called attention to a Bald Eagle's nest secured for the Academy at Broad Creek, Md., by Mr. Arthur H. Fisher, which is to be placed on exhibition in the Museum.

Mr. McMullen reported finding ten Eagles' nests in Delaware this year of which two were occupied. He stated that the last nesting in southern New Jersey with which he was familiar occurred about five years ago.

The Barred Owl was regarded as a rare nesting bird in southern New Jersey. Mr. McMullen described a nest of the Long-eared Owl in a pin oak tree in southern New Jersey and Mr. Baily one in a cedar near Paoli, Pa.

Mr. Baily suspected the nesting of the Red-tailed Hawk near Ardmore as he had repeatedly found the birds at a certain locality during the breeding season.

May 18. 1922. Twenty members and three visitors present. A general discussion was held on the spring migration. Mr. Baily reported eighty species noted at Oaks, Pa., on a trip on May 13, participated in by 16 members. The Cape May and Tennessee Warblers were seen but other Warblers usually present were not recorded. Baltimore Orioles were plentiful.

Mr. Pumyea reported an all day trip at New Lisbon, N. J., on May 14, on which eighty-three species were recorded.

October 5, 1922. Twenty-seven members and two visitors present.

Mr. Charles H. Rogers gave an account of a recent trip to the Camargue district in southern France where he observed some five thousand Flamingoes.

Dr. Stone spoke on a third season's study of the birds of Cape May, N. J., comparing the species observed between July 3 and

October 1 with those of the same period in other years, and describing a trip of several days to Jarvis Sound where the spring migration of shore-birds was studied.

Mr. McMullen stated that he had visited eight colonies of Common Terns, two of Least Terns, and four of Black Skimmers on the southern New Jersey coast during the past summer.

October 19, 1922. Sixteen members and two visitors present.

Mr. Pennock read a paper on "Birds of the Buckhill District, Pennsylvania."

November 2, 1922. Twenty-two members and one visitor were present. Messrs. John A. Gillespie and William Jay were elected Associate Members.

The Chicago Meeting of the A. O. U. was described by Messrs. Rhoads, Potter and Stone, and birds observed on the field trip to the Indiana Sand Dunes commented upon, among which the most interesting was the Harris's Sparrow.

Messrs. Potter, Robinson and Underdown described a field trip taken in the same connection along the shores of Lake Michigan where the Blue Goose, Franklin's Gull, Red-backed Sandpiper and Bronzed Grackle were found.

November 16, 1922. Thirty-two members and four visitors present.

Mr. Street spoke on the birds observed on the Academy Expedition to Nicaragua in the spring of 1922. About 625 specimens representing 200 species were obtained by Mr. Wharton Huber and himself.

December 7, 1922. Sixteen members present. Dr. Stone read a paper on "Present Day Tendencies and Opportunities in Ornithology," calling attention to the importance of studying and recording the habits, behaviour, and characteristics of the living bird, not merely the record of its presence or the getting of a mere skin or set of eggs.

December 21, 1922. Nineteen members and one visitor present. Mr. Pennock spoke on a south Florida trip "Through the Ten Thousand Islands to Cape Sable." Black and Yellow-crowned

Night Herons were the most plentiful Herons, and Swallow-tailed Kites, White Ibises and Roseate Spoonbills the most interesting species. The last when feeding swung the head from side to side and kept up a continual dance while so engaged.

The trip was taken primarily to secure the recently described Howell's Seaside Sparrow in which it was successful.

Abstract of the Proceedings of the Delaware Valley Ornithological Club, 1923

January 4, 1923. Thirty-one members and five visitors present.

Election of officers for the ensuing year resulted in the choice of the present incumbents:

President—James A. G. Rehn.
Vice-President—George H. Stuart, 3rd.
Treasurer—Samuel C. Palmer.
Secretary—Julian K. Potter.

Dr. Stone reviewed the Club's past history and urged the active participation of all the members in its work.

Mr. Street spoke on the human side of the Nicaragua expedition illustrating with lantern slides some of the adventures of the party.

January 18, 1923. Fifteen members present. Dr. S. C. Palmer acted as Secretary. Mr. Baily spoke on "Observations on a trip to California"—September and October 1922.

February 1, 1923. Mr. H. T. Underdown acted as Secretary. Fourteen members present.

Mr. Robinson described "Observations on a trip to the Pacific Coast" illustrated by a beautiful series of lantern slides, supplementing Mr. Baily's communication of last meeting.

February 15, 1923. Sixteen members and three visitors present.

A discussion was held on "The Objects and Possibilities of Bird Banding as a Method in Ornithology."

Dr. Stone introduced the subject with an historical resumé and urged that the Club take measures to participate actively in the work. Mr. Gillespie, already an experienced bander, described his methods and results and Mr. Huber was appointed to enlist members in bird banding and to furnish instructions and literature.

March 1, 1923. Twenty-three members and four visitors present.

Wharton Huber was elected to Active Membership, and the following were chosen Associates: William Yoder, Henry Gaede,

Henry H. Collins, 3rd., Alexander H. Leighton, James Hutchinson, Robert Haines, H. D. McCann, S. Rowland Morgan, Paul W. Bowman. Dr. C. E. Ehringer and Robert T. Moore were transferred to Corresponding membership, having removed from the Club limits.

Mr. Roberts spoke on "Tobyhanna, Pa., Bird Notes for 1922." A marked migration of Barn Swallows occurred there on July 22.

Mr. Carter read an interesting general account of "Summer Bird Life of the Pocono Region," intended for publication.

March 15, 1923. Fifteen members and one visitor present.

Dr. Palmer addressed the club on "A Philatelic Zoo" showing the extent to which birds and animals had been used as designs for postage stamps and tracing back man's tendency to use them in ornamental drawings from the earliest times.

April 5, 1923. Twenty-seven members and nine visitors present.

Mr. Stuart presented an account of a trip to Laguna del Madre and the Lower Rio Grande, Texas, in search of nests of certain species. The communication was illustrated with lantern slides.

April 19, 1923. Thirty-one members and four visitors present.

Mr. Rehn spoke on "Bird Notes from Arizona and California" made during an entomological trip in the summer and autumn of 1922.

May 3, 1923. Twenty-eight members and six visitors present.

Dr. Stone spoke on "April Birds of the Rice Plantations and Cottonfields of South Carolina."

A list of 24 was recorded near the mouth of the Santee River and 60 at Manning in the central part of the state, April 11–14.

An interesting visit to Arthur T. Wayne the veteran ornithologist, at Mt. Pleasant, S. C., was also described.

Mr. Huber called attention to a specimen of the recently described Thayer's Gull, in the Academy's collection, collected at Mt. Ephraim, N. J., March 9, 1888, by Samuel N. Rhoads.

May 17, 1923. No meeting held on account of the dedication of a tablet to Alexander Wilson in the Hall of the Academy by the St. Andrews Society to which the members of the Club were invited. Samuel Scoville, Jr., made the address.

October 4, 1923. Twenty-six members and four visitors present. The Club learned with sorrow of the death of Thomas R. Hill, an associate member and the following resolution was adopted:

The members of the D. V. O. C. have heard with deep sorrow of the death on October 2, 1923, of Thomas R. Hill, and desire to place on record the high esteem in which they held him both as friend and associate. Always deeply interested in the work and welfare of the Club he generously gave it his support in every undertaking, while his attendance at the meetings and participation in the proceedings helped in no small degree to give them that spirit of cooperation and good fellowship which has ever been their charm.

Mr. Potter read a paper entitled "A Season's Study of Some of our Water Birds."

Mr. Hoyes Lloyd of Canada who was present had just attended a meeting of the East Coast Antipolution League, at Atlantic City, N. J., and gave the Club an account of the menace of oil from oil burning vessels to sea birds and the means proposed to remedy the evil.

October 18, 1913. Nineteen members and three visitors present.

Mr. Samuel N. Rhoads addressed the club on "Some Old Bird Letters of John Cassin." These were written between 1852 and 1865 to George N. Lawrence and dealt with the publication of the "Birds of California and Texas" and the naming of new species.

Mr. Gillespie reported Tufted Titmice and both species of Nuthatches very abundant at Glenolden, Pa., this fall, while in the City Hall Court yard between September 15 and 20 he had identified Maryland Yellow-throat, Parula, Magnolia and Connecticut Warblers and Brown Thrasher which had struck the tower in migration.

November 1, 1923. Thirty-one members and five visitors present. The following were elected to Associate membership: Dr. Chas. C. Norris, B. H. Matlack, Clifford Marburger, Russell Richardson Jr., Arthur H. Hacker Jr., William P. Hacker, Elliot Underdown, Chas. A. Rittenhouse, Anthony C. Spangler, Thos. C. Benton, Lewin B. Barringer, Richard C. Fleck, James Bond.

Dr. Stone gave an account of the recent A. O. U. Meeting at Cambridge, Mass.

Mr. Tatnall read a curious account from an old book to the effect that the Turkey Vulture can restore lost sight by placing its head under its wing for a short time.

Mr. Samuel N. Rhoads described the habits of a Carolina Wren which came regularly to his greenhouse to spend the night (see Bird Lore 1924, p. 172).

Dr. Stone spoke on Cape May birds for 1923, commenting especially on the four Wood Ibises which spent the summer there (see Auk 1923, p. 692).

November 15, 1923. Thirty members and two visitors present. A resolution was adopted to send congratulations to the Nuttall Ornithological Club on the occasion of its fiftieth anniversary on December 7, 1923.

Mr. Pennock discussed the question of counting birds with a plea for accurate counts instead of subsequent estimates in making up daily lists.

December 6, 1923. Twenty-seven members and six visitors present. Mr. Street presided in the absence of the president.

Prof. Herbert H. Beck read a paper on the "Summer Resident Birds of Lancaster Co., Pa." One hundred and ten species were listed as summer residents, the Pied-billed Grebe, Blue Grosbeak, and Upland Plover were especially commented upon.

December 20, 1923. Twenty-four members and two visitors present.

Mr. Gillespie spoke on "A Year's Experience in Bird Banding," describing his methods and results. Twenty-seven per cent of the birds banded entered the traps again. Twenty-four species and 323 individuals were banded during the year.

Abstract of the Proceeding of the Delaware Valley Ornithological Club, 1924

January 3, 1924. Forty-five members and six visitors present. Election for officers resulted in the choice of the present incumbents:

President—James A. G. Rehn.
Vice-President—George H. Stuart, 3rd.
Treasurer—Samuel C. Palmer.
Secretary—Julian K. Potter.

Mr. Bradshaw H. Swales was elected an Associate member.

Mr. Street spoke on "Among the Waders and Water Fowl of West-central Alberta." An entertaining account of a trip with Mr. Geo. H. Stuart, 3rd, to Bowden and Belvedere Alberta, in search of the nest of the Solitary Sandpiper. In this quest they were successful (see Auk 1923, p. 577) and they also found as breeding birds the Lesser Yellow-legs, Bufflehead Duck, Spragne's Pipit and many other species. The address was illustrated with lantern slides.

Dr. Stone read an address delivered by him at the fiftieth anniversary of the Nuttall Ornithological Club entitled "The Ornithology of Today and Tomorrow."

January 17, 1924. Eighteen members and two visitors. A general discussion was held on Winter Bird Life.

Mr. Pumyea reported the Mt. Holly, N. J., Crow roost to be in flourishing condition.

Mr. Potter reported 215 species of birds seen by him within a hundred miles of Philadelphia during 1923.

February 7, 1924. Twenty-six members and two visitors present.

Mr. Fowler addressed the Club on "Bird Life in our National Parks" illustrating his remarks with a beautiful series of lantern slides taken during a trip through Yellowstone, Yosemite, and the Grand Canyon in 1923.

February 21, 1924. Thirty-two members and six visitors present.

Mr. Leighton spoke on "Bird Notes from Nova Scotia," illustrated with lantern slides. His observations were made near

Digby in the summer and fall of 1922 and 1923, and notes were presented on the habits of the Black-backed Gull, Loon, Canada Ruffed Grouse, Great Blue Heron and Pileated Woodpecker.

Mr. Gillespie reported a great influx of Purple Finches near his home at Glenolden, Pa. Twenty were trapped and banded.

March 6, 1924. Thirty-nine members and five visitors present.

The death of Isaac Norris DeHaven, Active member and ex-president was announced and the following minute was adopted.

The members of the D. V. O. C. have heard with deep sorrow of the death on March 2, 1924 of their former president and fellow member Isaac Norris DeHaven. Joining the Club the year after its organization Mr. DeHaven entered actively into its work, and to his interest and generous cooperation much of its success is due.

By his delightful personality he endeared himself to all of his fellow members and we feel that we have lost not only an ornithologist of ability but a friend in all that that word implies.

Dr. Trotter spoke on "An Ornithological Trip to Eastern and Southern Seas," giving an account of the countries visited and their conspicuous birds. He crossed the Pacific to Japan and China, thence to Java, Australia and New Zealand.

Mr. Carter recorded a Dickcissel found near West Chester, Pa., February 11, 1924, caught in a wire fence.

March 20, 1924. Thirty-two members and six visitors present.

Mr. Scoville made a communication entitled "Sky Pirates" in which he described in detail visits to two nesting sites of Duck Hawks and one of Ravens, the former at Tyrone, Pa., and in the Berkshires in Mass., the latter near Tyrone on April 15, 1923. The Ravens had four young, and the ground at the time was covered with snow. All the nests were on cliffs.

Messrs. McCann and Gillespie stated that returns of banded birds indicated that the Song Sparrows about their homes in winter were not the same ones as found there in summer.

April 3, 1924. Twenty-three members were present. The following were elected to Associate Membership: Theodore Miller, Kenneth O. Brown, Harold T. Green, Samuel Emlen, 3rd, J. Henry Shay, M. Claude Kershner, Edward R. Helwig, Morris M. Green, Frederick C. Young, John Archer Silver. Mr. Rehn addressed the Club on "Some Impressions of Costa Rican Birds,"

based on a visit in August and September 1923; illustrated with slides.

April 17, 1924. Twenty-two members present. Mr. Carter spoke on "Last Year's Nests" describing interesting breeding records for 1923. A Great Horned Owl's nest in Anne Arundel Co., Md., March 30, contained two young, the head of a Crow and hind quarters of a rabbit. A Red-tailed Hawk's nest was found at the same time. A Long-eared Owl had a nest with eggs at Bromal, Pa. on April 12. Blue Jays at Lansdowne, Pa. used a last year's nest.

At Pocono Lake a nest of the Ruffed Grouse was found, May 25, and a Golden-crowned Kinglet's on May 26. During the week of June 25 at this locality nests of Junco, Black-throated Green and Black-throated Blue Warblers, Hermit Thrush and Solitary Vireo were located and young Myrtle Warblers recently out of the nest were found as well as a single Siskin.

Mr. Carter also reported a Purple Grackle nesting in a hollow tree at Lansdowne, Pa.

May 1, 1924. Thirty one members and three visitors present.

Mr. Emlen spoke on "The Dismal Swamp and Our Southern Waterways" describing a boat trip and the birds observed en route.

May 15, 1924. Twenty-eight members and two visitors present.

Dr. Hughes described "A Trip to the South Sea Islands" including Hawaii, Fiji and Samoa, commenting on the more conspicuous birds observed. Albatrosses and Boobies were the most characteristic ocean birds and Doves and Parrots were most frequently seen on the more southern islands, though birds were scarce on land.

Mr. Gillespie reported the capture of two Catbirds banded a year ago at Glenolden, Pa.

October 2, 1924. Twenty-six members and three visitors present. In the absence of the president, Mr. Street occupied the chair.

Mr. Potter gave a talk on "Barn Owls" describing a study he and Mr. Gillespie had made of a family of these birds near Gloucester, N. J. (See Auk. 1925, p. 177.)

Mr. McCann reported the return to Paoli of a Purple Grackle, on September 16, which had been banded there December 2, 1923.

October 16, 1924. Nineteen members and one visitor present.

Mr. Pennock presented a paper entitled "On a Florida Marsh" a detailed account of a trip in the spring of 1924 to the Kissimmee river marshes. The Limpkin, Everglade Kite, Swallow-tailed Kite, Florida Jay, Black-necked Stilt, Egret, Sandhill Crane and Water Turkey were among the birds observed.

November 6, 1924. Twenty-seven members and two visitors present. The following were elected Associate Members: Henry R. Carey, Lawrence Ross, and Wm. J. Woolston.

Mr. H. H. Collins, 3rd, spoke on "Land and Water Birds of the West Indies," covering a trip to Porto Rico and San Domingo in June, 1924. He also described a trip to Martha's Vineyard in the past spring and showed some lantern slides of the Heath Hen.

November 20, 1924. Twenty-seven members and one visitor present.

Mr. Pumyea spoke on birds observed "Off the Maine Coast," describing a trip to Monhegan Island, in August, 1924. The Black-backed Gull, Purple Sandpiper, Red Crossbill, White-winged Crossbill, and Herring Gull were studied.

Mr. Bond followed with some notes on birds observed at Bangor, Me., in June last. The Wilson's, Yellow Palm and Bay-breasted Warblers and Alder Flycatcher were especially mentioned.

December 4, 1924. Twenty-seven members and two visitors present.

Dr. Stone addressed the Club on "The Problem of Bird Migration," the first of a series of talks on general problems of ornithology. Discussion followed.

Mr. Erskine described a trip to Saulsbury, Md., November 30, on which he found huge flocks of Red-winged Blackbirds, four Mockingbirds, many Crows, five Swan and several Horned Grebes.

Mr. Gillespie reported thirty-three species of birds on a Thanksgiving-day walk (November 27) at Glenolden, Pa. Fox Sparrows were very abundant and a Ruby-crowned Kinglet was seen.

Mr. Rhoads exhibited an engraved snuff box, once the property

of John Cassin, presented to him by a grand-daughter of the ornithologist.

December 18, 1924. Twenty-three members present. The death of Edward W. Woolman on December 15, was announced and the following minute adopted.

The D. V. O. C. has learned with sorrow of the death of their fellow member Edward W. Woolman. A student of birds throughout his long and eventful life, he passed his later years in our company, adding to the interest of our meetings by his reminiscences, and by his gentle and kindly personality endearing himself to all with whom he came in contact.

Mr. Huber described "Duck Collecting at Waterlily, N. C.," covering a week's shooting as the guest of Mr. Charles M. B. Cadwalader, November 9–15, 1924. The field marks of the various species were described and specimens from the extensive series obtained for the Academy's collection were on exhibition. Canada Geese were seen in flocks, and besides the various Ducks, some 3000 Swan were observed and many Greater Snow Geese.

Bibliography 1922

BAILLIE, RUTH M. Killdeers in Northern New Jersey. *Bird-Lore*, 1922, p. 303.—A nest and eggs at Allendale, N. J. (n. e. boundary of the state) on April 12.

BARNES, R. M. Sketch of Thos. H. Jackson. *Oölogist*, 1922, p. 45.

BARTRAM, EDWIN B. Evening Grosbeaks in Pike Co., Pa. *Auk*, 1922, p. 263.—December 17 and January 10, 1922, flocks of 15 to 20.

BARTRAM, EDWIN B. An Unusual Mockingbird Record. *Auk*, 1922, p. 267.—First week in May, 1921, at Bushkill, Pa. in full song.

BOULTON, RUDYERD. Camp in a Coal Mine. *Oölogist*, 1922, p. 70.—List of birds observed in Beaver Co., Pa.

DAVIS, R. N. The Evening Grosbeak at Scranton, Pa. *Auk*, 1922, p. 110.—One October 21, 1921.

GRISCOM, LUDLOW AND JANVRIN. E. R. P. Shoveller in Bergen Co., New Jersey, in Spring. *Auk*, 1922, p. 100.—Overpeck Creek near Englewood with many other ducks, April 3.

HARLOW, RICHARD C. Breeding Habits of the Northern Raven in Pennsylvania. *Auk*, 1922, pp. 399–410.—A full account of the writer's long experience with the species.

HARRISON, H. M. Short-billed Marsh Wren. *Oölogist*, 1922, p. 163.—Nesting in Salem Co., N. J., one completed nest with five eggs June 4, 1922. Black Duck with young, three Egrets, Marsh Hawk's nest and those of Florida Gallinule, Virginia and King Rails and Swamp Sparrows.

JACOBS, J. WARREN. Occurrence of the Snowy Owl in Southwestern Pennsylvania. *Oölogist*, 1922, p. 123.—Nov. 24, 1894.

JACOBS, WM. F. My first Offense. *Oölogist*, 1922, p. 65.—Sparrow Hawks breeding at Waynesburg, Pa.

KOHLER, LEWIS H. The Birds of Greenwood Lake. *Wilson Bulletin*, 1922, pp. 148–163.—Several records need verification as that of the Connecticut Warbler in spring.

KUSER, CYNTHIA D. A Pine Grosbeak in New Jersey. *Bird-Lore*, 1922, p. 116.—Bernardsville, N. J., December 16, 1921.

McClelland, Dr. and Mrs. W. C. Notes on the Birds of the Vicinity of Washington, Pa. *Amer. Midland Naturalist*, VII, 1922, pp. 35–38. About 100 species. "Brown-headed Nuthatch" is an obvious misprint.

McGrew, Albert D., Three Views of the Yellow Warbler (Photographs). *Bird-Lore*, 1922, p. 199.

Miller, Richard F. Late Nesting of the Yellow-billed Cuckoo. *Oölogist*, 1922, p. 176.—August 29 at Frankford, Phila., with three eggs.

Miller, Richard F. Large Sets of Birds' Eggs. The *Oölogist*, 1922, p. 27.—Records of sets taken in Pennsylvania and New Jersey.

Miller, Richard F. Early nesting of Colaptes auratus luteus in Philadelphia. *Oölogist*, 1922, p. 176—May 7, 1910, with newly hatched young.

Miller, Richard F. Nesting of the Bittern in Philadelphia. *Auk*, 1922, p. 252.—May 31, 1921, Bridesburg, Phila., with five eggs.

Miller, Richard F. Nesting of the Long-eared Owl in Southern New Jersey. *Auk*, 1922, p. 257.—Two at Pennsgrove, Salem Co., April 10 and 11, 1921, four and five eggs respectively.

Miller, W. DeW. The Hermit Thrush as a Summer Resident in New Jersey. *Auk*, 1922, p. 116.—Bearfort Mt., near Newfoundland, July 11 and 13, 1921. A pair.

Nichols, J. T. The Season—New York Region. *Bird-Lore*, 1922, pp. 42, 98, 153, 216, 280 and 349.—Contains data for the northeastern part of New Jersey.—

Nissley, Mabel H. Evening Grosbeaks in Pennsylvania. *Bird-Lore*, 1922, p. 149.—Two on February 18, 1922, at Hummelstown, nine miles southeast of Harrisburg.

Palmer, T. S. Game as a Natural Resource. *U. S. Dept. Agr. Bulletin 1049*, 1922.—Contains statements on the abundance of game in Pennsylvania. In 1919, 287,001 Ruffed Grouse and 5,181 Wild Turkeys were reported killed.

Potter, J. K. Oystercatcher on the New Jersey Coast. *Auk*, 1922, p. 564.—Seven Mile Beach June 18, 1922, a single bird with Black Skimmers.

POTTER, JULIAN K. The Season—Philadelphia Region. *Bird-Lore*, 1922, pp. 43, 99, 154, 217, 280, and 349.—Covering the Philadelphia Region proper and the southern coast region of New Jersey.

PUMYEA, N. DE W. The Evening Grosbeak at Mt. Holly, N. J. *Auk*, 1922, p. 110.—One male November 20, 1921.

REGAR, H. SEVERN. An Appreciation of William H. Werner. *Oölogist*, Supplement, October, 1922.

SCOVILLE, SAMUEL JR. The Evening Grosbeak at Haverford, Pa. *Auk*, 1922, p. 110.—One female, November 26, 1921.

SIMPSON, R. B. Hunting Hawks' Nests. *Oölogist*, 1922, p. 33.—Goshawk, Cooper's Broad-winged, Sparrow and Red-tailed Hawks breeding in Warren Co., Pa.

SIMPSON, R. B. Some Blackburnian Nests. *Oölogist*, 1922, p. 86.—In Warren Co., Pa.

STONE, WITMER. Hawk Flights at Cape May, N. J. *Auk*, 1922, p. 567.

STONE, WITMER. Wood Ibis at Cape May, N. J. *Auk*, 1922, p. 565.—One August 10, 1922.

STUART, E. T., JR. Trip to Delaware. *Oölogist*, 1923, p. 59.

URNER, CHARLES A. Iceland Gulls at Elizabeth. *Auk*, 1922, p. 249.—January 15, 1922.—On February 4, two and March 18 one.

URNER, CHARLES A., Hooded Warbler near Elizabeth, N. J. *Auk*, 1922, p. 266.—June 19, 1921. A pair.

URNER, CHARLES A. Greater Yellow-legs Records at Elizabeth, N. J. *Auk*, 1922, p. 413.—Numerous June and July dates.

URNER, CHARLES A. Snowy Owl at Elizabeth, N. J. *Auk*, 1922, p. 257.—One seen several times on the marshes December 26 to March 18, notes on other Owls also.

URNER, CHARLES A. Olive-sided Flycatcher Summering at Green Pond, N. J. *Auk*, 1922, p. 568.—August 6, two individuals.

WESTWOOD, HERBERT W. Evening Grosbeak at Stroudsburg, Pa. *Auk*, 1922, p. 262.—Observed in 1919 and on December 13, 14 and 29, 1921, large flocks.

Christmas Bird Censuses. *Bird-Lore*, 1922, pp. 20–24.—Twenty-five from Pennsylvania and New Jersey.

West Chester (Pa.) Bird Club. Annual Summary of Work 1920–1921, pp. 1–25.—Many local notes.

Bibliography 1923

Burleigh, Thomas D. Notes on the Bird Life of Alleghany County, Pennsylvania. *Wilson Bulletin*, 1923, pp. 79–99, 138–147.—Very fully annotated.

Carter, T. Donald and Howland, R. H. A Brewster's Warbler and his Brood. *Auk*, 1923 p. 423–430.—At Wyanokie, Passaic, Co., N. J.

Chase, Leda W. A Few Bird Problems. *Oölogist*, 1923, p. 131.—Robins nesting during a snow storm.

Christy, Bayard F. Crossbill Visitors. *Bull. Audubon Soc. Western Pa.* No. 1., April, 1923, pp. 10–11.—Record of this and other species in the Pittsburgh Region.

Christy, Bayard H. A List of Sewickley, Pennsylvania. *The Cardinal*, No. 1, January, 1923 (fifteen pages). Supplement on p. 20 of The Cardinal, No. 3.

Christy, Bayard H. Notes and Spring Migration at Clinton Pond. *The Cardinal*, No. 2, July 1923.—Referring to the Pittsburgh region.

Collins, Henry H., III. A New Jersey Mockingbird. *Bird-Lore*, 1923, p. 396. September 15, 1923, at Bay Head, N. J.

Daley, Mary Wood. Audubon's Farm. *Bird-Lore*, 1923, pp. 231–232.

Deane, Ruthven. Extract from the Field Notes of George B. Sennett. *Auk*, 1923, pp. 626–633.—Many notes from Erie, Pa.

Dickey, S. S. The Great Horned Owl. *Bull. Audubon Soc. Western Penn.* No. 1, April, 1923, pp. 21–25.—Nesting in western Pennsylvania.

Griscom, Ludlow. Birds of the New York City Region. *Handbook No. 9* Amer. Mus. Nat. Hist., pp. 1–400. Published by the Museum.—Many records for northern N. J.

Homer, Fred L. Young Nighthawks. *Bull. Audubon Soc. Western Pa.*, No. 1, January, 1923.

Huber, Wharton. Golden Plover in Cape May County, N. J. *Auk*, 1923, p. 122.—One shot at Sea Isle City, Sept. 28, 1900 and one at Corson's Inlet, November 23, 1922.

JAY, WILLIAM. Long-eared Owl Wintering at Evansburg, Pa. *Auk*, 1923, p. 533.—About 50 individuals.

KOHLER, LEWIS S. Long-billed Marsh Wren. *Oölogist*, 1923, p. 85.—Nesting on the Newark and Hackensack marshes.

KOHLER, LEWIS S. Nesting of the Goldfinch in 1922 in New Jersey. *Oölogist*, 1923, p. 111.—Three nests in northern N. J.

KOHLER, LEWIS S. Killdeer in New Jersey. *Oölogist*, 1923, p. 124.—Regular breeder at Richfield, N. J.

KUSER, CYNTHIA D. Notes on Albino Robins. *Bird-Lore*, 1923, p. 189.—A pair of albinos bred at Barnardsville, N. J.

MCMULLEN, T. E. Prairie Warbler. *Oölogist*, 1923, p. 201.—In southern New Jersey in 1923 found a colony of twenty nests of the Prairie, also nests of Hooded, Black and White Warbler, Marsh Hawk (4) and Short-eared Owl.

MILLER, RICHARD F. Nesting of the Cooper's Hawk in Philadelphia. *Oölogist*, 1923, p. 61.—Records for several nests.

MILLER, RICHARD F. The Florida Gallinule in Philadelphia in Winter. *Oölogist*, 1923, p. 11.—Bird caught alive February 12, 1913.

MILLER, RICHARD F. The Loon in Pennsylvania and New Jersey in Summer. *Oölogist*, 1923, p. 113.—Neshaniny Creek, Pa., October 1, 1912, June 17, 1922.—Two Mile Beach, N. J., and July 2, 1922, Island Beach, N. J.

MILLER, RICHARD F. Unusual Nesting Site of a Chipping Sparrow. *Oölogist*, 1923, p. 152.—In an old Woodpecker's hole.

MILLER, RICHARD F. Late Swallows at Philadelphia. *Oölogist*, 1923, p. 166.—Barn Swallow, October 10, 1917, and Bank Swallow, October 3, 1915.

MILLER, RICHARD F. The Saw-whet Owl in Spring at Philadelphia, Pa. *Auk*, 1923, p. 124.—One seen at Holmesburg Phila., April 5, 1922.

MILLER, RICHARD F. The Sooty Shearwater in New Jersey. *Auk*, 1923, p. 689.—Two dead on the beach June 17, at Stone Harbor.

NICHOLS, J. T. The Season—New York Region. *Bird-Lore*, 1923, pp. 47, 129, 190, 256, 322, 398.—Contains data for the northeastern part of New Jersey.

PAGAN, FRANK. Scenes from the Home Life of a Ruby-throated Hummingbird. (Photographs.) *Bird-Lore*, 1923, p. 242.

POTTER, JULIAN K., The Season—Philadelphia Region. *Bird-Lore*, 1923, pp. 47, 192, 257, 323, 399.—Covering the Philadelphia region proper and the southern coast of New Jersey.

POTTER, J. K. Gray Kingbird at Cape May, N. J. *Auk*, 1923, p. 536 and 694.—One seen May 30, 1923.

POTTER, J. K. Yellow-throated Warbler again at Cape May, N. J., *Auk*, 1923, p. 543.—One seen May 30, 1923.

SCOVILLE, SAMUEL, JR. Pileated Woodpecker at Newton, N. J. *Auk*, 1923, p. 533.

STONE, WITMER. The Sooty Shearwater on the New Jersey Coast. *Auk*, 1923, p. 689.—June 1, 1923, one picked up dead at Cape May and two caught by fishermen off Corson's Inlet, June 4.

STONE, WITMER. Wood Ibis in New Jersey Again. *Auk*, 1923, p. 692.—Four birds present at Cape May, July 7 to August 21.

SUTTON, GEORGE M. Field Identification of Our Winter Birds. *Bull. Audubon Soc. Western Pa.* No. 1. April 1923, pp. 4–9.

SUTTON, GEORGE M. The Starling in Southwestern Pennsylvania. *Bull. Audubon Soc. Western Pa.*, No. 1, January, 1923, pp. 38–40.

SUTTON, GEORGE M. The Season—Pittsburgh Region, *Bird-Lore*, 1923, pp. 132, 193, 260.

SUTTON, GEORGE M. Nesting of the Wilson's Snipe in Crawford County, Pennsylvania. *Wilson Bulletim*, 1923, pp. 9–202. —Five nests found May 4–29, 1922 and 1923. The first record of the breeding of the species in the state.

URNER, CHARLES A. Notes on the Short-eared Owl. *Auk*, 1923, pp. 30–36.—Breeding on the marshes at Elizabeth, N. J.

URNER, CHARLES A. Raven at Elizabeth, N. J. A Withdrawal. *Auk*, 1923, p. 127.—Withdraws a previous record of a bird seen May 31, 1919, as not positively identified.

URNER, CHARLES A. Notes from Elizabeth, N. J. *Auk*, 1923, pp. 140–142.—Savannah Sparrow nesting, Upland Plover, Little Blue Heron, Yellow-crowned Night Heron, Golden Plover.

ZIEGLER, J. FRED. Notes on a Purple Martin Colony. *Auk*, 1923, pp. 431–436.—At Greencastle, Pa.

CHRISTMAS BIRD CENSUSES. *Bird Lore*, 1923, pp. 20–26.—Thirty-one lists from Pennsylvania, New Jersey and Delaware.

Bibliography 1924

ANDERSON, JOHN C. Passenger Pigeon Reminiscences. *The Cardinal*, No. 3, January, 1924. pp. 7–10.—Report of conservation regarding Pigeons and Turkeys in the vicinity of Sewickley.

BECK, HERBERT H. Apparent Nesting of the Hooded Merganser in Lancaster Co., Pa. *Auk*, 1924, p. 659.—May 25, 1924, a pair on Hammer Creek, six miles from Lititz, Pa. apparenently with young.

BECK, HERBERT H. A Chapter on the Ornithology of Lancaster County, Pa. Reprinted from the Lewis Historical Publishing Co.'s. History of Lancaster County, Pennsylvania. —The first county list since Libhart's in 1869, (reviewed in the Auk, 1924, p. 623).

BURLEIGH, THOMAS D. Migration Notes from State College, Center County, Pennsylvania. *Wilson Bulletin*, 1924, pp. 68–77, 128–132.

BURNS, FRANK L. The Philosophy of Birds' Nests. *Wilson Bulletin*, 1924, pp. 78–88, 121–127, 188–200.—Contains a number of local records.

CARTER, T. DONALD. Snow Geese at Boonton, N. J. *Auk*, 1924, p. 472.—Flock of 37, April 6, 1924.

CHRISTY, BAYARD H. Bewick's Wren in Alleghany County. *The Cardinal*, No. 3, January, 1924, pp. 12–15.

DANFORTH, STUART T. Short-billed Marsh Wren at New Brunswick, N. J. *Auk*, 1924, p. 349.—September 12, 1923, three, September 15, four, and one each September 18 and 22.

GRISCOM, LUDLOW. The Arctic Three-toed Woodpecker in New Jersey. *Bird-Lore*, 1924, p. 65.—Englewood, N. J., November 29, 1923.

GILLESPIE, JOHN A. The Rewards of Bird-Banding. *Bird-Lore*, 1924, p. 236–240.—Records at Glenolden, Pa.

GILLESPIE, MABEL. Glenolden Notes. *Bird-Lore*, 1924, p. 327.—Carolina and Winter Wrens at Glenolden, Delaware Co., N. J.

GILLESPIE, JOHN A. Trapping Lincoln's Sparrow in Pennsylvania. *Auk*, 1924, p. 613.—One caught at Glenolden, Pa., May 25, 1924.

GRISCOM, LUDLOW, AND JOHNSON, J. M. Ring-necked Duck in Northern New Jersey. *Auk*, 1924, p. 339.—March 25, 1923, Overpeck Creek, Bergen Co.

GRISCOM, LUDLOW. Arctic Three-toed Woodpecker in New Jersey. *Auk*, 1924, p. 343.—November 29, 1923. Englewood.

GRISCOM, LUDLOW. Bicknell's Thrush in Northern New Jersey. *Auk*, 1924, p. 349.—Orange, N. J., October 10, 1915, collected by C. B. Isham.

HUNN, JOHN T. S. Little Blue Heron at Plainfield, N. J. *Bird-Lore*, 1924, p. 115.—Two at South Plainfield, September 8, 1923.

HUNN, JOHN T. S. The Black Tern at Plainfield, N. J. in Spring. *Bird-Lore*, 1924, p. 329.—South Plainfield Pond, May 14, 1924, one.

JACOBS, J. WARREN. The Other Egg in the Nest. *Oölogist*, 1924, p. 52.—Various species in whose nests the Cowbird laid; most of the sets in Pennsylvania.

JAY, WILLIAM. Blue-winged Warbler. *Oölogist*, 1924. p. 146.—Nesting about Philadelphia.

KUSER, CYNTHIA D. A Spring Bird Census from New Jersey. Bernardsville, *Bird-Lore*, May 17, 1924.—77 species.

MCMULLEN, T. E. A 1924 Record with Some Unusual Finds. *Oölogist*, 1924, p. 154.—Nests of 75 species found.

MILLER, RICHARD F. Breeding of the Short-eared Owl in Salem Co., N. J. *Oölogist*, 1924, p. 109.—A brood of young May 4, 1923.

NICHOLS, J. T. The Season—New York Region. *Bird-Lore*, 1924, pp. 53, 119, 186, 260, 333, 414.—Contains records for the northeastern part of New Jersey.

OGBURN, CHARLTON, JR. Great Horned Owl at Englewood, N. J. *Bird-Lore*, 1924, p. 181.—March 24, 1924.

POTTER, JULIAN K. The Season—Philadelphia Region. *Bird-Lore*, 1924, pp. 54, 120, 187, 262, 334, 415.—Contains records for the Philadelphia region proper and the southern New Jersey coast.

POTTER, JULIAN K. Blue Grosbeak at Cape May, N. J. *Auk*, 1924, p. 159.—A female, November 11, 1923 under exceptionably favorable circumstances.

RHOADS, MARY CAWLEY. Our Winter Guest. *Bird-Lore*, 1924, pp. 172–175.—Carolina Wren roosting in a greenhouse.

ROSEN, VICTOR. Great-horned Owl at Englewood, N. J. *Auk*, 1924, p. 478.—March 28, 1924.

STONE, WITMER. Franklin's Gull at Philadelphia—A Correction. *Auk*, 1924, p. 468.—Specimen recorded in *Auk*, 1912, p. 99, proves to be the Laughing Gull.

STONE, WITMER. The Mississippi Kite at Cape May, N. J., *Auk*, 1924, p. 477.—One seen May 30, 1924.

SUTTON, GEORGE M. The Season—Pittsburgh Region. *Bird-Lore*, 1924, pp. 55, 122, 189, 266, 336, 418.

TODD, W. E. CLYDE. Life Zones of Western Pennsylvania. *The Cardinal*, No. 3, January, 1924, pp. 1-6.—With mention of characteristic birds and trees.

URNER, CHARLES A. Bonaparte's Gull Summering near Perth Amboy, N. J. *Auk*, 1924, p. 149.—A flock of about 30 July 28, reported to have been seen during June, July and August.

URNER, CHARLES A. Some 1923 Records for Northern New Jersey. *Auk*, 1924, p. 166.—Pileated Woodpecker, Parula and Black-throated Green Warblers, and Hermit Thrush at Morris Lake, Sussex Co. in the breeding season.

URNER, CHARLES A. Recent Records from Elizabeth, N. J. *Auk*, 1924, pp. 164–166.—Black-backed Gull, Bonaparte's Gull, Egret, Little Blue Heron, Northern Phalarope, Baird's Sandpiper, Western Sandpiper, Hudsonian Curlew, Golden Plover, Turkey Vulture, Carolina Wren, and Short-billed Marsh Wren.

URNER, CHARLES A. Records for North Beach, Barnegat Bay,

N. J. *Auk*, 1924, p. 167.—Red-throated Loon, Parasitic Jaeger, Caspian and Least Terns, Gannet, Clapper Rail, Semipalmated and Least Sandpipers, Nashville Warbler and Maryland Yellow-throat.

Way, Asa P. Ring-necked Duck in Delaware County, Pa. *Auk*, 1924, p. 472.—March 30, 1924, at Lansdowne.

Woodruff, Lewis B. White Herons at Lakehurst, N. J. *Auk*, 1924, p. 153.—Three Egrets present July 25–September 1, and six Little Blue Herons, July 25, September 10, 1923.

Christmas Bird Censuses. *Bird-Lore*, 1924, pp. 26–31.—Twenty-five from Pennsylvania and New Jersey.

Club Notes

ATTENDANCE at meetings have been as follows:

1922. Sixteen meetings, attendance sixteen to forty-five, average twenty-four, sixty-nine members attended at least one meeting and twenty-six made communications.

1923. Fifteen meetings, attendance fourteen to thirty-one, average twenty-four, seventy-six members attended at least one meeting and twenty-four made communications.

1924. Sixteen meetings, attendance eighteen to forty-five, eighty-eight members attended at least one meeting and thirty-three made communications.

* * *

At the A. O. U. meeting at Chicago, October 24–26, 1922, the Club was represented by Messrs. Stone, Rhoads, Potter, Robinson and Underdown.

At the Cambridge meeting, October 9–11, 1923, Stone, Rhoads, Robinson, Underwdown were present.

At Pittsburgh, November 11–13, 1924, Stone, Emlen, Robinson, Underdown.

* * *

The local collection of birds at the Academy of Natural Sciences has been materially increased during recent years by members of the Club. To the Stone Collection and the local material in the Hoopes collection there have now been added the collections of S. N. Rhoads, H. W. Fowler, Wm. E. Hughes, Chas. J. Pennock, F. Guy Meyers, Howard Y. Pennell, Samuel Wright and Frederick L. Clark, Henry Warrington, Alfred Redfield, George Spencer Morris, I. Norris DeHaven and all the more important specimens in the collection of Wm. L. Baily.

* * *

Field trips were taken as follows during the years 1922–1924:

1922. February 22, to Cape May, N. J. Twenty-four members and six visitors; 45 species observed.

1922. April 14 to Mt. Holly, N. J. Eleven members and one visitor; 52 species observed. Woodcock sitting close on four eggs.

1922. May 30 to Cape May, N. J. Twelve members and two visitors; 57 species observed. An adult Little Blue Heron was the most notable.

1923. February 22, Cape May, N. J. Twenty-three members and nine visitors; 52 species observed. Mockingbird, Thrasher, Towhee, Ipswich Sparrow, Red-headed Woodpecker.

1923. March 30, Delaware City, Del. Fourteen members and one visitor; 42 species seen. Whistling Swan, Shoveller, Mockingbird (in song).

1923. May 30, Cape May, N. J. Ten members and two visitors; 68 species observed. White-rumped Sandpiper, Gray Kingbird, Yellow-throated Warbler, Short-billed Marsh Wren.

1924. February 22, Pleasantville to Somers Point, N. J. Twenty-four members and four visitors; 49 species seen.

1924. April 18, Chester Creek from Wawa to Cheyney, Pa. Six members, all water soaked, poured rain all day; 36 species seen. Crow's nest with six eggs.

1924. May 30, Cape, May, N. J. Twelve members and two visitors; 71 species. Black Tern, Mississippi Kite, Cliff Swallow.

OFFICERS AND MEMBERS

OF THE

Delaware Valley Ornithological Club

1926*

GEORGE H. STUART, 3rd, *President.*
JOHN D. CARTER, *Vice-President.*
SAMUEL C. PALMER, *Treasurer*, Swarthmore, Pa.
JULIAN K. POTTER, *Secretary*, Collingswood, N. J.

ACTIVE MEMBERS

BAILY, WILLIAM L., Ardmore, Pa. ..... Founder
CAREY, HENRY R., 3115 Queen Lane, Phila. 1924
CARTER, JOHN D., Lansdowne, Del. Co., Pa. ..... †1900
EMLEN, ARTHUR C., Awbury, Germantown, Phila. 1897
FOWLER, HENRY W., Langhorne, Pa. 1894
GILLESPIE, JOHN A., 313 Sharp Ave., Glenolden, Pa. 1922
HUBER, WHARTON, 225 St. Marks Square, Phila., Pa. 1923
HUGHES, WM. E., M.D., 3954 Chestnut St., Phila. 1891
PALMER, S. C., PH. D., Swarthmore College, Swarthmore, Pa. 1899
PENNOCK, CHARLES J., Kennett Square, Pa. 1895
POTTER, JULIAN K., Collingswood, N. J. 1911
PUMYEA, NELSON DEW., Mt. Holly, N. J. 1920
REHN, JAMES A. G., 6026 Walton St., Phila., Pa. 1899
RHOADS, SAMUEL N., Haddonfield, N. J. ..... Founder
ROBERTS, WILLIAM E., 207 McKinley Ave., Lansdowne, Pa. 1901
SCOVILLE, SAMUEL, JR., Pennsylvania Bldg., Phila., Pa. 1907
SHRYOCK, WILLIAM A., 225 S. Sixth St., Phila., Pa. 1891
STONE, WITMER, SC.D., Academy of Natural Sciences, Phila. ..... Founder
STREET, J. FLETCHER, Beverly, N. J. 1903
STUART, GEO. H., 3RD, Girard Trust Company, Phila., Pa. 1910
TROTTER, SPENCER, M.D., Swarthmore College, Del. Co., Pa. ..... Founder
WEYGANDT, CORNELIUS, PH.D., Wissahickon Ave. below Frank St., Germantown, Phila. 1891

ASSOCIATE MEMBERS

ALLEN, A. REGINALD, JR., 2013 Spruce St., Phila., Pa. 1918
BACON, FRANCIS L., 236 Winona Ave., Germantown, Phila. 1917

* Corrected to February 1, 1926.
† Date indicates year of election to Club.

Baird, David G., Beverly, N. J. 1913
Ball, J. P., M.D., 5001 Frankford Ave., Phila., Pa. 1910
Barringer, Lewin B., 2103 Walnut St., Phila., Pa. 1923
Bartram, Edwin B., Bushkill, Pa. 1908
Beatty, George, Jr., Merion, Pa. 1911
Beck, Prof. H. H., Franklin and Marshall College, Lancaster, Pa. 1917
Benners, George B., 278 S. 23rd St., Phila., Pa. 1913
Benton, Thos. C., 5711 Lansdowne Ave., Phila., Pa. 1923
Bond, James, 1213 Locust St., Phila., Pa. 1923
Borneman, Henry S., 801 Liberty Bldg., Phila., Pa. 1913
Bowman, Paul W., P. O. Box 966, Narberth, Pa. 1923
Brown, Kenneth O., 1512 N. Broad St., Phila., Pa. 1924
Butcher, Howard T., Jr., 220 Real Estate Bldg., Phila., Pa. 1920
Byrom, Lewis S., 127 W. Susquehanna Ave., Phila., Pa. 1909
Coates, Wilfred L., 316 Beverly Road., Llanerch, Pa. 1925
Collins, Henry H., 3rd, Yarrow Ave., Bryn Mawr, Pa. 1923
Cook, Franklin, Seaside Hotel, Atlantic City, N. J. 1919
Cooke, George J., Ambler, Pa. 1916
Cope, Francis R., Jr., E. Washington Lane, Germantown, Phila., Pa. 1895
Culver, Delos E., Addingham, Pa. 1913
Ellis, J. M. MacKinnon, Swarthmore, Pa. 1917
Erskine, Richard, Wenonah, N. J. 1916
Evans, Joseph S., Marlton, N. J. 1913
Emlen, John T., Jr., West School Lane, Germantown, Phila., Pa. 1925
Emlen, Samuel, 3rd, 943 E. Haines St., Germantown, Phila., Pa. 1924
Fleck, Richard C., 6362 Drexel Road., Phila., Pa. 1923
Forsyth, George, Route 4, R. F. D., West Chester, Pa. 1891
Foster, Frank B., Haverford, Pa. 1912
Fuguet, Stephen, 1027 Spruce St., Phila., Pa. 1911
Gaede, Henry, 3101 N. 10th St., Phila., Pa. 1923
Gillen, Thos. S., Ambler, Pa. 1921
Gillen, James R., Ambler, Pa. 1921
Green, Harold T., Acad. Nat. Sciences, Phila., Pa. 1924
Green, Morris M., 39 S. Wyoming Ave., Ardmore, Pa. 1924
Gummere, Dr. R. M., Wm. Penn Charter School, Phila., Pa. 1922
Hacker, Arthur H., Jr., 2111 Pine St., Phila., Pa. 1923
Hacker, William P., 2111 Pine St., Phila., Pa. 1923
Hagar, Arthur F., Park Hill Ave., Langhorne, Pa. 1906
Haines, Samuel S., M.D., 124 E. Main St., Moorestown, N. J. 1901
Haines, Robert, E. Main St., Moorestown, N. J. 1923
Hallett, George H., Jr., Morton, Pa. 1911
Hannum, William E., Primos, Pa. 1901
Harrison, H. M., 319 Penn St., Camden, N. J. 1920
Helwig, Edwin R., 1724 Spruce St., Phila., Pa. 1924
Hicks, Philip M., Swarthmore College, Pa. 1922
Hottle, Howard P., 437 Hansbury St., Germantown, Phila., Pa. 1918

HUTCHINSON, JAMES, 935 S. Paxson St., Phila., Pa. 1923
INGERSOLL, R. STURGIS, Land Title Bldg., Phila., Pa. 1925
JACK, CHARLES S., D.D.S., 1533 Locust St., Phila., Pa. 1906
JAY, WILLIAM, 12 Westview Ave., Germantown, Phila., Pa. 1922
JUSTICE, WILLIAM W., JR., Netherfield, Willow Grove P. O., Pa. 1893
KEIGHTON, WALTER B., 307 Yale Ave., Swarthmore, Pa. 1921
KERSHNER, M. CLAUDE, Paulsboro, N. J. 1924
KUSER, JOHN DRYDEN, Bernardsville, N. J. 1911
LEIGHTON, ALEX. H., The Hedges, Rosemont, Pa. 1922
LEWIS, SHIPPEN, 1820 Pine St., Phila., Pa. 1912
LINTON, M. ALBERT, 409 Chestnut St., Phila., Pa. 1905
LIVINGSTONE, PHILIP A., Box 966, Narberth, Pa. 1922
LOCKWOOD, PROF. D. F., Walnut Lane, Haverford, Pa. 1919
LOWER, GEORGE G., Herschel Road, Somerton, Phila., Pa. 1922
McCADDEN, DAVID N., 5039 Osage Ave., Phila., Pa. 1892
McCALL, WILLIAM W., JR., 4056 Chestnut St., Phila., Pa. 1915
McCANN, H. D., Paoli, Pa. 1923
McDANIEL, W. G., Lafayette College, Easton, Pa. 1919
McDONALD, NORMAN J., 224 Park Ave., Swarthmore, Pa. 1925
McMULLEN, T. G., 933 N. 5th St., Camden, N. J. 1920
MAHY, G. GORDON, JR., 4809 Warrington Ave., Phila., Pa. 1918
MARBURGER, CLIFFORD, Denver, Pa. 1923
MATLACK, B. H., Bridgeton, N. J. 1923
MAYER, CHARLES, 107 E. Stewart St., Lansdowne, Pa. 1922
MERCER, E. LEROY, M.D., Swarthmore, Pa. 1916
MERCUR, JAMES WATTS, JR., Wallingford, Pa. 1914
MEYERS, F. GUY, 1218 Chestnut St., Phila., Pa. 1896
MILLER, ISAAC P., 409 Chestnut St., Phila., Pa. 1907
MILLER, THEODORE, 333 Shadelane Ave., Drexel Hill, Pa. 1924
MITCHELL, DR. B. W., 4326 Pine St., Phila., Pa. 1914
MORGAN, S. ROWLAND, Willow Grove Ave., Chestnut Hill, Phila., Pa. 1923
NORRIS, CHAS. C., M.D., 1301 Walnut St., Phila., Pa. 1923
NORRIS, EDWARD, St. Martins, Chestnut Hill, Phila., Pa. 1914
NORRIS, J. PARKER, JR., 2120 Pine St., Phila., Pa. 1916
PACKER, JESSE E., M.D., Newtown, Pa. 1911
PALMER, ARTHUR W., Haverford, Pa. 1921
PANGBURN, C. H., 299 Madison Ave., N. Y. City 1919
PARKER, HARRY E., Southampton, Pa. 1915
PATTERSON, WILLIAM H., Merion Sta., Pa. 1925
PEPPER, WILLIAM, M.D., 1811 Spruce St., Phila., Pa. 1912
PURSELL, WILLIAM M., 3421 Walnut St., Phila., Pa. 1925
RHOADS, CHARLES J., 1914 S. Rittenhouse Sq., Phila., Pa. 1914
RICHARDSON, RUSSELL JR., 320 S. 16th St. Phila., Pa. 1923
RITTENHOUSE, CHAS. A., 330 W. Logan St., Germantown, Phila., Pa. 1923
ROBINSON, ANTHONY W., Box 426, Haverford, Pa. 1898
ROLAND, CONRAD K., 1208 DeKalb St., Norristown, Pa. 1917

ROLSTON, HORACE W., 1534 S. 55th St., Phila., Pa. 1925
ROSS, LAWRENCE, 16 E. Oak Ave., Moorestown, N. J. 1924
SCHAUENESEE, RODOLPHE MEYER DE, 1213 Locust St., Phila., Pa. .. 1922
SCHELL, JOHN W., Drexel Building, Phila., Pa. 1917
SCHEUING, WILLIAM B., 317 N. 63rd St., Phila., Pa. 1893
SCOVILLE, GURDON T., 415 Lancaster Ave., Haverford, Pa. 1919
SELLIEZ, EDWARD A., Box 469, Phila., Pa. 1902
SERRILL, WILLIAM J., 1401 Arch St., Phila., Pa. 1891
SHAY, J. HENRY, Paulsboro, N. J. 1924
SIBLEY, WM. G., Abington, Pa. 1900
SILVER, JOHN ARCHER, Haverford College, Haverford, Pa. 1924
SMITH, LOUIS IRVIN, JR., 3908 Chestnut St., Phila., Pa. 1901
SPANGLER, C. ANTHONY, Swarthmore, Pa. 1923
STUART, EDWARD T., JR., Nash Apartments, 1527 Spruce St., Phila., Pa. 1925
STYER, J. FRANKLIN, Concordville, Pa. 1917
SUDDERS, JOSEPH C., 211 W. Tabor St., Olney, Pa. 1910
SWALES, BRADSHAW H., U. S. National Museum, Washington, D. C. . 1924
TATNALL, SAMUEL A., 409 Chestnut St., Phila., Pa. 1910
TATUM, JOSEPH W., Haddonfield, N. J. 1892
THOWLES, H. L., 765 Broad St., Newark, N. J. 1922
TOBIAS, C. E., JR., 5232 Knox St., Germantown, Phila., Pa. 1919
TOMLIN, F. H., D.D.S., Haddonfield, N. J. 1909
TROTH, HENRY, 1814 Chestnut St., Phila., Pa. 1922
TROTTER, WILLIAM H., Chestnut Hill, Phila., Pa. 1899
UNDERDOWN, ELIOT, 8216 Manor Road, Elkins Park, Pa. 1923
UNDERDOWN, HENRY T., 409 Chestnut St., Phila., Pa. 1918
VOELKER, CHARLES A., Aldan, Delaware Co., Pa. ..... Founder
VOSBURG, PAUL, 263 City Hall, Phila., Pa. 1905
WAY, ASA P., Lansdowne, Pa. 1919
WHITAKER, JAMES L., Cedar Grove, Frankford, Phila., Pa. 1904
WILDMAN, EDWARD L., 4331 Osage Avenue, Phila., Pa. 1914
WOOD, GEORGE B., M.D., 1830 Spruce St., Phila., Pa. 1917
WOOLMAN, EDWARD, Haverford, Pa. 1915
WOOLSTON, WILLIAM J., 110 Chestnut St., Phila., Pa. 1924
YODER, WILLIAM, 4510 N. Carlisle St., Phila., Pa. 1923
YOUNG, FREDERIC C., 15 Morgan Ave., Palmyra, N. J. 1924

HONORARY MEMBER

ABBOTT, WILLIAM LOUIS, M.D., 400 S. 15th St., Phila., Pa. 1912

CORRESPONDING MEMBERS

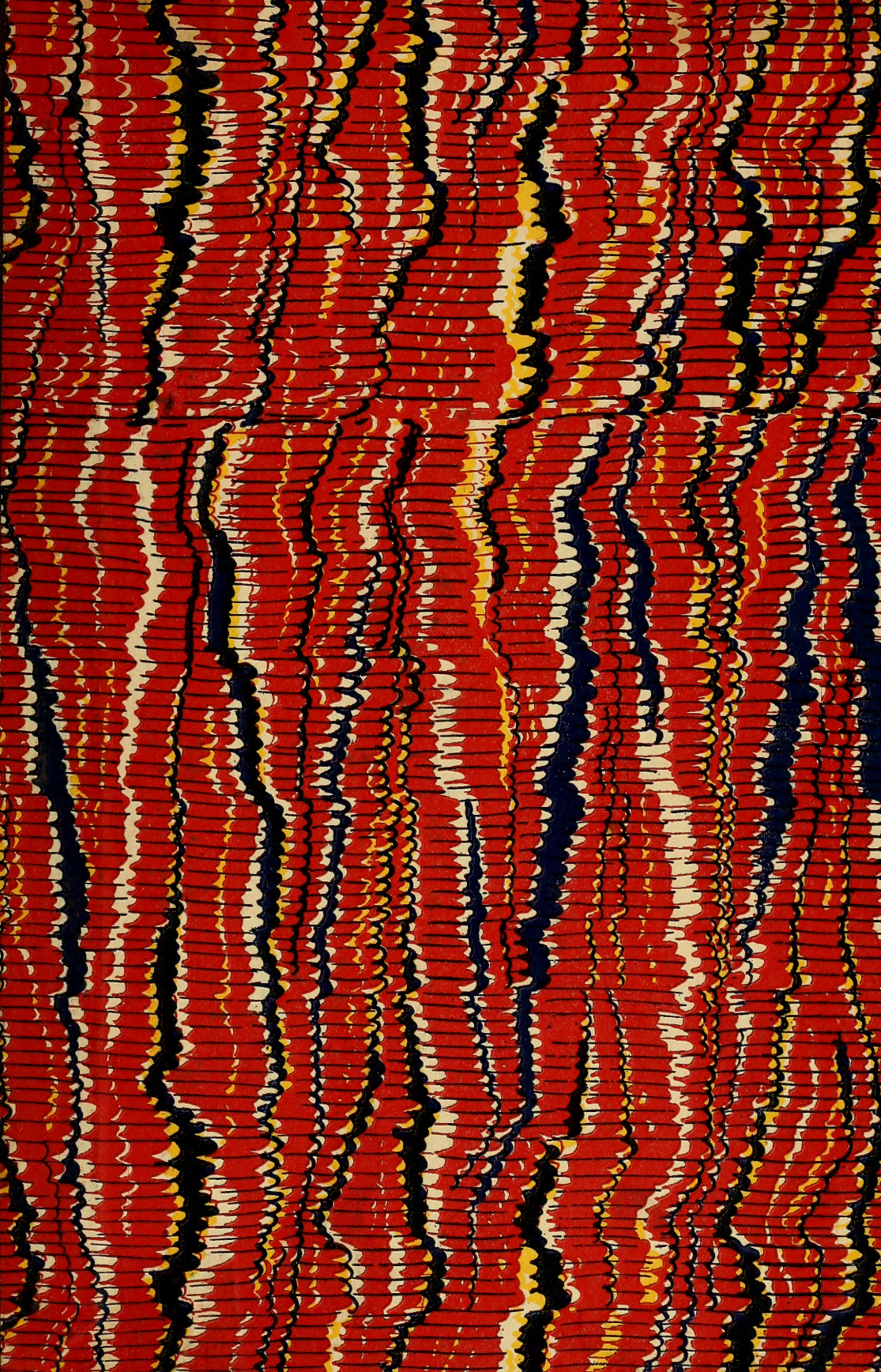
AUSTIN, J. HAROLD, M.D., New York City 1903
BAYNARD, O. E., Clearwater, Fla. 1911
BEANS, THOMAS J., Moorestown, N. J. 1895
BEHR, HERMAN, Lansdale, Pa. 1897
BEHR, OTTO, Lopez, Sullivan Co., Pa. 1897

Bowdish, B. S., Demarest, N. J. 1913
Buller, W. H., Marietta, Lancaster Co., Pa. 1895
Burleigh, Thomas D., Athens, Georgia 1917
Buvinger, Charles W., M.D., Newark, N. J. 1900
Coggins, Herbert L., 463 14th St., Oakland, Calif. 1897
Cole, Stirling W., Cape May Court House, N. J. 1904
Dickey, Samuel S., Waynesburg, Pa. 1917
Eastman, Major F. B., U. S. A., Ft. Leavenworth, Kans. 1898
Ehinger, Dr. C. E., Keokuk, Iowa 1909
Evans, William B., Syria 1898
Farr, Marcus S., Princeton, N. J. 1901
Fry, Rev. Henry J., Mt. Vernon, N. Y. 1915
Githens, Alfred M., New York City, N. Y. 1895
Graham, Harry L., Redlands, Calif. 1897
Grosh, Allen H., Washington, D. C. 1900
Hand, H. Walker, 1002 Washington St., Cape May, N. J. 1900
Harlow, Richard C., Colgate College 1904
Hunt, Chreswell J., 5943 Rice St., Chicago, Ill. 1902
Jacobs, J. Warren, Waynesburg, Greene Co., Pa. 1895
Keim, Thomas D., Glendale, Md. 1902
Kester, Raymond, Williamsport, Pa. 1892
Ladd, Samuel B., Reading, Pa. 1895
Liebelsperger, W. H., Fleetwood, Pa. 1913
Lorrilliere, Paul L., Baltimore, Md. 1904
McReynolds, George, Doylestown, Pa. 1917
Marx, Capt. Edw. J. F., Easton, Pa. 1909
Miller, Waldron DeW., Plainfield, N. J. 1900
Moore, Robert T., Pasadena, Calif. 1897
Ottemiller, Free, 30 N. Pine St., York, Pa. 1917
Pearson, Leonard S., Baltimore, Md. 1908
Peet, Max M., M.D., Ann Arbor, Mich. 1913
Pennell, Howard Y., M.D., Downingtown, Pa. 1894
Philipp, P. B., 220 Broadway, New York City 1895
Phillips, A. H., Princeton, N. J. 1895
Poole, Earl L., Reading, Pa. 1910
Redfield, Alfred C., Cambridge, Mass. 1908
Regar, H. Severn, Norristown, Pa. 1917
Roddy, H. Justin, State Normal School, Millersville, Pa. 1895
Rogers, Chas. H., Princeton, N. J. 1905
Sharples, Robert P., West Chester, Pa. 1906
Silvester, C. F., Princeton, N. J. 1901
Simpson, R. B., Warren, Warren Co., Pa. 1907
Sorensen, Frederick, Chalmersgarten, Gothenburg, Sweden 1900
Stack, Frederick W., Doubleday, Page & Co., New York City 1905
Stone, Hugh E., Haverford, Pa. 1895
Todd, W. E. Clyde, Carnegie Museum, Pittsburgh, Pa. 1895

Warrington, Henry, San Francisco, Calif. 1896
Wheeler, Prof. A. L., Princeton, N. J. 1905
Whitaker, William L., Ada, Okla. 1893
Wisler, J. Jay, Columbia, Pa. 1904
Young, Robert T., Ph.D., State University, N. Dakota 1892

DECEASED MEMBERS

	Died
Baker, Charles H., Corresponding Member	Jan. 23, 1924
Benners, Lieutenant Archibald, Associate Member	July 3, 1918
Brown, John Farnum, Active Member	May 13, 1894
Brown, Stewardson, Active Member	March 14, 1921
Bush, Walter D., Corresponding Member	Aug. 11, 1904
Crispin, William B., Corresponding Member	May 9, 1913
DeHaven, Isaac Norris, Active Member	March 2, 1924
Detwiler, John W., M.D., Corresponding Member	Sept. 26, 1898
Evans, Ernest M., Associate Member	June 29, 1911
Farquhar, Arthur, Associate Member	Feb. 21, 1920
Fox, George B., Associate Member	July, 1925
Griffiths, Bartram W., Associate Member	Dec. 21, 1916
Hales, Henry T., Corresponding Member	Nov. 6, 1913
Hill, Thomas R., Associate Member	Oct. 2, 1923
Holmes, LaRue K., Corresponding Member	May 10, 1900
Hoopes, Josiah, Corresponding Member	Jan. 16, 1904
Jackson, Thomas H., Corresponding Member	Feb. 27, 1922
Koch, August, Corresponding Member	Feb. 15, 1907
Moore, Gilbert H., Associate Member	May 28, 1899
Morris, George Spencer, Active Member	April 12, 1922
Onderdonk, Elmer, Associate Member	Sept. 4, 1913
Owen, Frederick N., Associate Member	Dec. 27, 1905
Newbold, William Henry, Associate Member	May 25, 1917
Patterson, William, Corresponding Member	Aug. 27, 1900
Platt, Chas., 3rd, Associate Member	Aug. 21, 1918
Raub, M. W., M.D., Corresponding Member	Aug. 8, 1914
Rawle, Francis W., Associate Member	June 12, 1911
Seiss, C. Few, Associate Member	Sept. 5, 1915
Sheppard, Edwin, Associate Member	April 7, 1904
Smith, William W., Associate Member	July 3, 1892
Spaeth, Reynold A., Corresponding Member	June 26, 1925
Welles, Charles S., Associate Member	Feb. 24, 1914
Werner, William H., Corresponding Member	May 13, 1912
Whitaker, Albert, Associate Member	Oct. 23, 1920
Windle, Francis, Associate Member	Feb. 24, 1917
Woodhouse, Samuel W., M.D., Honorary Member	Oct. 23, 1904
Wright, Samuel, Active Member	Jan. 18, 1917



SMITHSONIAN INSTITUTION LIBRARIES
3 9088 00984 9043